

January 9, 2014

By Electronic Mail and Hand Delivery

Arthur A. Elkins, Jr. (2410T) Inspector General U.S. Environmental Protection Agency 1200 Pennsylvania Avenue, NW Washington, DC 20460

Re: Request For Investigation Concerning EPA Bristol Bay Watershed Assessment

Dear Mr. Elkins:

I am writing on behalf of Northern Dynasty Minerals Ltd., owner of the Pebble Limited Partnership, to request that the Office of the Inspector General launch an investigation into an EPA environmental risk assessment report, the veiled activities that led to it, and EPA's management of the peer review processes employed during its development. The report is scientifically indefensible and biased, and we are asking you to investigate whether it violates the Information Quality Act ("IQA") EPA's own IQA policies, and EPA's risk assessment and peer review policies.

Introduction

The report is entitled "An Assessment of Potential Mining Impacts on Salmon Ecosystems of Bristol Bay, Alaska" (Second External Review Draft, April 2013) ("the Assessment"). It has become obvious that the report was written to justify a preemptive veto of a permit for a particular mining project ("the Pebble Project") in Southwest Alaska, although that project has not yet been defined nor entered the permitting process.

The activities in question include three elements:

- 1. Since about 2008 EPA employees have been working quietly within the Agency for an unprecedented EPA preemptive veto of the Pebble Project. They worked internally, they worked closely with outside groups that oppose the project, and they enlisted other federal agencies.
- 2. EPA has tried to advance this effort by preparing the report that is the focus of this request. That report was structured to support a veto of the Pebble Project.

EPA relied on studies selected for that same purpose, while ignoring more reliable information that was publicly available or was submitted to the Agency but ignored. With uncommon haste EPA completed a deeply flawed assessment report that adopted anti-project views wholesale.

3. In an attempt to validate this biased report EPA manipulated its peer review process in ways that violate its own peer review principles.

Much is at stake. The lost economic benefits from wrongfully blocking this project can be estimated. Over a 25-year project life, they include: annually, some 15,000 jobs; an annual contribution to U.S. gross domestic product of some \$2.54 billion; and combined federal, state, and local tax revenues averaging about \$350 million annually. In southwest Alaska, where jobs are extremely scarce and the cost of living is prohibitive, Pebble will provide more than 1,000 full-time jobs with an average annual income in excess of \$100,000, and will expand the tax base for the Lake & Peninsula Borough by some 700%. We believe these contributions will be life-changing for a region currently beset by high levels of unemployment, poverty, out-migration, the loss of funding for schools and other community services.

Below I will describe in detail the three elements summarized above. These are the EPA activities that we are requesting you to investigate.

I. EPA Employees Have Been Working With Outside Groups to Convince EPA to Preemptively Veto the Pebble Project.

Although EPA has consistently stated that it prepared the Assessment in response to petitions from Alaska Native groups for EPA to veto the Pebble Project, that explanation conceals the prior two years of effort by Agency employees to persuade EPA to issue a preemptive veto. Those efforts, including collaboration with outside interest groups and outreach to other agencies, are described below.

A. Beginning As Early as 2008, an EPA Employee Has Advocated a Veto

EPA announced on February 7, 2011 that it would conduct a scientific assessment of the Bristol Bay watershed "in response to concerns from federally-recognized tribes and others who petitioned the agency in 2010 to assess any potential risks to the watershed." On its Web site, under the heading, "Why We're Studying the Bristol Bay Watershed," EPA states: "We launched the study in response to petitions from federally-recognized tribes and others who

¹ "The Economic and Employment Contributions of a Conceptual Pebble Mine to the Alaska and United States Economies," (IHS Inc.; May 2013).

² Available online at: http://yosemite.epa.gov/opa/admpress.nsf/d0cf6618525a9efb85257359003fb69d/8c1e5dd5d170ad99852578300067d3b3!OpenDocument

wrote to EPA with concerns about how large-scale mining could impact Bristol Bay fisheries." In its many statements to Congress, the State of Alaska, the project proponent (Pebble Limited Partnership ("PLP")), the media and the public, the EPA has always asserted that the process began as a result of a formal written request by six tribes to initiate the 404(c) process under the Clean Water Act.

There is compelling evidence, however, that these EPA assertions about the origin of the 404(c) process are misleading. This evidence indicates that the 404(c) inquiry originated within EPA itself several years before the tribes made their formal written request. During the critical period prior to EPA's decision to undertake the Assessment, there were frequent contacts between key EPA officials and a small cadre of anti-Pebble activists working to secure EPA intervention using EPA's 404(c) veto power. Many of the EPA communications, activities and private meetings raise doubts about EPA's fairness, impartiality and objectivity in the Assessment process.

Although EPA has claimed that the Assessment was triggered by tribal petitions in May 2010, EPA employee Phillip North, who was based in Alaska, advocated for an EPA veto of the Pebble Project two years earlier, beginning at least as early as 2008. Mr. North then authored a critical portion of the Assessment.

On August 26, 2008, Mr. North emailed Patricia McGrath, EPA Region 10 mining coordinator, and said he would like to discuss the 404 issue at an August mining team meeting: "The 404 program has a major role. I would like the benefit of hearing what other EPA folks are thinking." [Ex. 1]

A year later, as plans were being laid for the annual EPA mining retreat where the Chuitna and Pebble projects would be discussed, North raised the issue again. In an August 17, 2009 email to EPA officials Michael Szerlog and Marcia Combes, North outlined the agenda which included "404 Issues – Phil" and said the meeting should include discussions about the EPA position and "appropriate action in response to our position." North wrote: "As you know, I feel that both of these projects [Chuitna and Pebble] merit consideration of a 404C veto. We will discuss this from a technical perspective and staff perspective at these meetings." [Ex. 2 (emphasis added)] A week later, on August 24, 2009, an EPA email confirmed that the agenda for the September 16, 2009 retreat would include North presenting 404 issues with discussions of the EPA position, action in response to the position and timelines, schedules and next steps. There was also to be discussion "about the appropriate communication to the developer and affected State/Federal Agencies." [Ex. 3]

These emails, obtained via a FOIA request, strongly suggest there is more to this story. But EPA documents produced under FOIA reveal no further references to this retreat, the 404(c) discussion, or whether EPA formulated a position and course of action as North requested. And

³ Available online at: http://www2.epa.gov/bristolbay/why-were-studying-bristol-bay-watershed

the FOIA documents do not reflect any communications to state agencies, the developers or other Pebble stakeholders at that time.

Whatever happened behind the scenes and internally at EPA in 2009, by the beginning of 2010, *before* any petitions had been filed, the 404(c) issue had become significant enough inside the agency to warrant briefing the Administrator. Region 10 put together a 39-page PowerPoint briefing for EPA Administrator Lisa Jackson on January 13, 2010. Twice, the EPA briefing refers to the 404(c) veto power (on p. 35 and on the final page under "Future Options") although no permit application was pending and this would be first-ever pre-emptive 404(c) veto of a major development project in the 43-year history of the Clean Water Act. [Ex. 4]

The formal tribal petition for 404(c) review would not be submitted for another four months, on May 21, 2010. Thus, the issue should have been no surprise to EPA even at the highest levels. In fact, the notion appears to have likely originated within EPA, with EPA's Phil North in Alaska, who may well have communicated the idea to those who would eventually file the petition.

B. EPA Has Encouraged Mine Opposition

One indication of Mr. North's eagerness to encourage outside opposition to the Pebble project appears in an email Mr. North sent shortly after the initial petition was filed. In a June 25, 2010 email to Richard King, whose Ekwok Village Council was one of the six tribes to file the initial 404(c) petition a month earlier, North told King: "Tribes have a very special role in Pebble issues because of government-to-government relations. EPA takes that very seriously. *I encourage you to develop that relationship as much as you can*. I look forward to talking with you more in the future." [Ex. 5] (emphasis added)

North communicated with other petitioners as well. Geoffrey Parker was the lawyer for anti-Pebble financial backer Robert Gillam and the six tribes filing the initial petition. In late 2009, Parker asked EPA who his point of contact at EPA should be. He was directed to John Pavitt, the project manager. [Ex. 6] ⁵ But it didn't take long for Parker find his way to North as a point of contact and source of information. [Ex. 7]

Two weeks after Parker filed the petition for the tribes, he sent North some related news stories. North's reply: "Thanks, Jeff. This is a strong argument for a broad approach to 404(c)" [Ex. 8]

Far from the dispassionate public servant seeking objective scientific information, Mr. North was also actively engaged with a number of those outside of EPA advocating an EPA veto. North collaborated with (among others) Peter Van Tuyn, a lawyer representing the Bristol

⁴ EPA's only preemptive veto involved three virtually identical projects in Florida, located on three contiguous parcels. One of the three had not yet filed a formal Section 404 permit application.

⁵ Parker signed the 404(c) request on behalf of the tribes Geoffrey Parker, but in his emails, he consistently uses Jeff Parker.

Bay Native Corp. ("BBNC") and Shoren Brown, Trout Unlimited's primary anti-Pebble activist. BBNC filed its own veto request on August 12, 2010 and sent a copy directly to North in a message that made it appear to be much more than a courtesy copy. Correspondence strongly suggests on-going communication and shared opposition to the Pebble Project. North replied to BBNC attorney Van Tuyn, "Hi Peter, We have been discussing 404(c) quite a bit internally at all levels of EPA. This letter will certainly stoke the fire. I look forward to talking with you in the near future." [Ex. 9] Absent an investigation, the degree to which these petitions were a product of collusion between EPA personnel and external environmental advocacy organizations remains unknown.

C. EPA Sought Veto Support From the U.S. Fish & Wildlife Service

North's role as a 404(c) advocate within EPA also spilled over into anti-Pebble advocacy with other federal agencies, including the U.S. Fish and Wildlife Service.

"I spoke with Phil North," U.S. Fish and Wildlife Service (FWS) biologist Phil Brna said in a September 23, 2010 FWS email on "Pebble and 404c." "He has now briefed people in EPA all the way up to the assistant administrator. He believes EPA leaders have decided to proceed and they are just deciding when." [Ex. 10] (emphasis added)

North also seems to have dispatched the 404(c) advocates to carry the fight into other agencies. "He [North] is sending me contact info for the TU [Trout Unlimited] person so we can talk with them," wrote Brna.

"Phil says DC is opposed to his plan to do a year of outreach before they make a decision. He thinks they are just going to do this in accordance with the regs and as quickly as they can." Brna suggested to his colleagues that they ask Anchorage EPA chief Marcia Combes to have North brief FWS staff.

"When do you think we can schedule the first meeting? I will provide the Pebble layout showing road, port and mine as we know it. I also have a map showing 792.6 square miles of mining claims around Pebble," Brna said. "This is going to happen and it's going to get bloody. I am looking forward to it!"

Trout Unlimited's chief spokesman Shoren Brown joined the discussion in October 2010, saying that BBNC representatives and their lawyer Van Tuyn would participate in EPA briefings for FWS and their role would be to "stand up and support EPA." The target to be convinced was Geoff Haskett, the FWS Alaska Regional Director. [Ex. 11] (The record is devoid of any attempt to obtain participation of pro-Pebble stakeholders or state agency personnel.)

If FWS correspondence accurately reflects EPA's decision-making, EPA had unofficially decided on a 404(c) veto *even before* it began its watershed assessment. Ann Rappoport, Field Supervisor for the Anchorage Fish and Wildlife Field Office ("AFWFO") offered up a briefing

paper. [Ex. 12] The paper, dated October 1, 2010, was entitled, "EPA to Seek Service Support When They Use Section 404(c) of the Clean Water Act." [Ex. 13] (emphasis added)

In a "Summary of Likely Action," the paper states: "The U.S. Environmental Protection Agency (EPA) is seeking Service support as they initiate a formal process to issue a determination that the waters of the U.S., including wetlands, within the potential pebble Mine action are unsuitable for the placement of fill material. This action would be conducted under the authority of Section 404(c) of the Clean Water Act (CWA), and would effectively prevent the project from receiving the necessary federal permits to develop a mine in the Nushagak and Kvichak watersheds." [Ex. 13] (emphasis added).

Although this FWS briefing paper was attached to an email written two weeks after the EPA announcement that it would undertake the watershed assessment, the FWS paper itself was dated more than four months *before* EPA's public announcement. The paper said, "As of last week [which would be in late September 2010], it is our understanding that EPA has tentatively decided to initiate the 404(c) process but they have not yet determined when this will occur."

AFWFO recommended that Phil North brief FWS Regional Director Geoff Haskett and National Park Service Regional Director Sue Masica. AFWFO further recommended that the Service support EPA and "provide biological information, technical assistance and recommendations when appropriate."

A series of emails in March 2011 shows some FWS managers trying to generate greater EPA-Department of Interior involvement up to the secretary level. Both FWS and the National Park Service are part of the Department of Interior. But FWS Chief of Conservation Planning Assistance Larry Bright, based in Arlington, Virginia, cautioned: "I wouldn't mention the Secretary's office at this point to anyone. If that particular move worked, it would need to be something that originated with EPA... Now if [Alaska Regional Director] Geoff [Haskett] gets religion and wants to brief all the way up the chain of command, that would be different." [Ex. 14]

D. EPA Has Held Ongoing Private Meetings with Mine Project Opponents

Among the most aggressive advocates for an EPA veto was Wayne Nastri, a former EPA Region 9 administrator, who shortly after leaving his post became a lobbyist for those "seeking a pre-emptive CWA 404(c) action with regard to the proposed Pebble Mine" as he wrote in one of his many messages to EPA officials. [Ex. 15]

Nastri's collegial messages opened EPA doors for people such as Shoren Brown, Bob Waldrop, executive director of the Bristol Bay Regional Seafood Development Association; and Rick Halford, a former state legislator.

EPA personnel did not seek balance. Rather, one-sided meetings seemed routine, based on the numerous EPA emails in which 404(c) advocates requested private meetings and calls and got what they wanted. The meetings almost always featured the same people: Shoren Brown of

Trout Unlimited; Bob Waldrop; Rick Halford; and the lawyers and lobbyists for the tribes, BBNC, Trout Unlimited, and others. There are elusive groups with no apparent legal existence, such as the so-called Bristol Bay Working Group. EPA seemed willing to accommodate these meeting requests without exception. [Ex. 16]

E. EPA Maintained a Period of Secrecy For a Trout Unlimited Advocacy Report

EPA has collaborated with activists seeking a veto from the agency. For example, on November 23, 2011, Trout Unlimited ("TU") provided EPA with an advance "embargoed" copy of its Bristol Bay report opposing the Pebble Project. TU informed EPA that the report was to be released "in the coming weeks." [Ex. 17] EPA distributed the report to its own staff, cautioning them about the embargo. In January, TU hosted a Q&A session with EPA about the report. Then, on February 8, 2012, TU released the report, 2½ months after giving EPA exclusive access. This process allowed TU to advocate its position within EPA without an opportunity for any response. This agreement between TU and EPA has come to light only because of the documents released as a result of PLP's FOIA request. [Ex. 18]

F. EPA Headquarters Has Also Exhibited Anti-Pebble Bias

Although anti-Pebble sentiment at EPA may have originated at EPA Region 10, it was also prevalent at headquarters in Washington. After EPA received the veto petitions in May 2010, Administrator Jackson neglected to inform PLP, the project proponent. At a meeting set up with representatives of PLP in July 2010 at the administrator's request, no mention was made of the petitions to veto the Project even though those petitions had been received by EPA months previously. Instead, PLP learned about the Petitions afterwards from the press.

In April 2011, EPA Administrator Lisa Jackson attended a fundraiser opposing the Pebble Project at the Supreme Court. Lisa Jackson met with Alaska Native representatives opposed to the Pebble Project on multiple occasions, but over the course of this controversy she steadfastly refused to meet with Alaska Native representatives supportive of due process and a thorough analysis of the Pebble Project. Those Natives who opposed the preemptive 404(c) veto made numerous requests to meet with Administrator Jackson and every one of them was denied, despite those Native representatives being willing to adjust their schedules to conform with the Administrator's.

Headquarters' close relationship with project opponents continued even after Administrator Jackson was replaced by the current administrator, Gina McCarthy. On September 30, 2013, Administrator McCarthy signed a letter to PLP that was addressed to PLP's Chief Executive Officer John Shively. The letter was circulated to project opponents, however, *before* it was sent to PLP's CEO, a delay caused by the government shutdown. Although we assume that Ms. McCarthy was not herself responsible for this action, the fact that EPA officials were able to deliver the letter to project opponents during the shutdown—but not to its intended

⁶ Alaska Daily News article stating that Lisa Jackson attended and spoke at an anti-Pebble Mine reception, available online at: http://www.adn.com/2011/04/10/1802762/critics-fault-retired-justice.html

recipient—is an indication of how closely other EPA officials were working with the Pebble opposition. Because the letter was addressed only to Mr. Shively, there was no apparent reason that it should have gone to the opposition at all. The contrast of EPA communications with Pebble opponents, which were frequent but never disclosed to PLP, is stark.

Nancy Stoner, the acting EPA Assistant Administrator for Water, appears to have been an active opponent of the Pebble Project. For many years Ms. Stoner had been a senior attorney at the Natural Resources Defense Council (NRDC), one of the principal environmental nongovernmental organizations (ENGOs) opposing the Pebble Project. Ms. Stoner apparently attempted to circumvent the ban on meeting with her prior employer by adding others to anti-Pebble NRDC meetings. Specifically, when NRDC attorney Joel Reynolds on June 14, 2010, asked Stoner for a 404(c) meeting on behalf his tribal clients, she replied, "I am not supposed to set up meetings with NRDC staff, but can attend such a meeting if there are enough others in attendance." [Ex. 19] NRDC's role has not prevented Ms. Stoner from contact with other anti-Pebble groups and petitioners, and even leading a meeting requested by petitioners represented by Peter Van Tuyn. [Ex. 20] The degree to which Ms. Stoner has communicated with her former employer is not clear from the limited FOIA documents; nor are we in a position, without further investigation, to know about other anti-Pebble advocacy efforts. As the acting Assistant Administrator of the Office of Water, the office of EPA charged with deciding the fate of the Pebble Project (including potentially vetoing the project), Ms. Stoner's actions are particularly troubling.

G. Our Knowledge of EPA's Activities Is Limited Due to Email Redactions

There is clearly more to this story, but it is obscured by numerous inexplicable redactions in the EPA emails produced to PLP under FOIA. Most of the redactions are in emails with earlier dates. They occur in the body of the text as well as in address lines. Some of the emails featuring addressee redactions appear to be inconsequential. But when addressees' names are blotted out, one cannot know who participated in EPA communications, meeting invitations, and data dissemination.

When an entire block of names is removed from a message about a tribal conference call, one wonders whether the names were obliterated to make it impossible to see who was not invited. [Ex. 21] It appears the most redactions in addresses occur on those sent by Geoffrey Parker. Given his history of representing Robert Gillam, a financial backer for the anti-Pebble campaign, one cannot help but wonder what names are hidden. [Ex. 22] The early emails involving Jeff Parker, were plagued by redactions, whiteouts and blackouts, scattered through the address block, but also in the content. [Ex. 23, 24] But an email with no redactions whatsoever raises another question: why is EPA sending blind copies to Parker, as it did in this seemingly routine communication from EPA's Tami Fordham on 7-16-10, with bcc to Jeff Parker. [Ex. 25 (missing)] This email raises the question of whether EPA was routinely sending bcc emails to Parker and the other favored 404(c) advocates to keep them posted on internal EPA affairs. In general, the identities of persons communicating with agency officials are *not* exempt from release under FOIA (although arguably private information like home phone numbers may be).

Summary

Thus, although EPA has consistently claimed the Assessment was prepared in response to outside petitions, in fact the veto issue had been raised internally within the Agency two years before, and it grew serious enough to become the subject of a formal briefing of the Administrator four months *before* EPA received the first such petition. The significance of this information is that it belies the Agency's stance that it is acting as a neutral umpire responding to outside pressure. The pressure was coming from *inside* the Agency. The pretense of neutrality was, in fact, just a pretense.

Moreover, frequent communications with outside groups opposing the mine project (but not those favoring it), and the concerted EPA effort to enlist support from the Fish and Wildlife Service, show that Agency efforts to gather opposition to this project were not limited to the Agency itself. EPA, whose duty it is to evenhandedly apply the environmental laws, became the leader of efforts to pre-judge this project.

Finally, the heavily-redacted EPA emails clearly leave many gaps in the story about EPA's efforts. At the very least, the Inspector General should fill those gaps.

II. The Resulting Assessment Report Is Heavily Biased and Deeply Flawed.

In light of the intense efforts within EPA to veto the project, there should have been an extra effort to maintain neutrality of a report that commanded so many Agency resources. Unfortunately, the urge to proceed quickly, apparently to support a preemptive veto, resulted in an environmental risk assessment that is scientifically indefensible.

A. The Assessment Targets a Prospective Pebble Mine, Not the Watershed

Although the Assessment was commenced as a study of current and future potential impacts of development in the entire watershed on the salmon fishery (and other natural resources) in Bristol Bay, Alaska, it devolved into a critique of a single mining project. In fact, the Assessment never actually estimates impacts on the watershed – its purported purpose. As explained by David Atkins in his peer review of the initial draft Assessment: "Development of the mine as proposed would eliminate streams and wetlands in the project area permanently. The importance of this impact is not put in context of the watershed as a whole, so it is not possible to determine the magnitude of the risk to salmon." *Final Peer Review Report: External Peer Review of EPA's Draft Document, As Assessment of Potential Mining Impacts on Salmon Ecosystems of Bristol Bay, Alaska*, at 13 (Sept. 17, 2012) ("Final Peer Review Report").

Originally, EPA proposed a watershed assessment study of the nine separate river systems that collectively comprise Bristol Bay (an area of some 42,000 square miles). In planning for the Assessment, EPA proclaimed an expansive desire to "evaluate all potential

large-scale development in the [Bristol Bay] watershed, including mining." EPA subsequently narrowed its study to just (a) two of these nine river systems, then (b) only to the impact of mining on those watersheds, then (c) only to the impact of a prospective Pebble Mine on those watersheds. No precedent exists for such a narrowing of this sort of study. In fact, EPA policy demands that watershed assessments should evaluate the watershed as a whole, not portions of it in isolation. The EPA Region 10 *Watershed Assessment Primer* ("Primer") instructs, for example, that sub-watersheds "are not designed to be stand-alone assessment areas." Furthermore, it provides that "[t]o maintain or improve water quality, we need to assess problems, develop responses, and predict changes at the watershed level." 10

In contravention of this guidance, the Assessment disregards the broader watershed and the watershed significance of the hypothetical impacts. The Assessment is not a "watershed assessment" at all, rather the document comprises speculation about the impacts of a hypothetical Pebble Project, whose impacts are never placed in context. As peer reviewer David Atkins observed, ". . . it is not possible to determine the magnitude of the risk to salmon."

B. The Assessment Is Fundamentally Biased.

The bias in the Assessment is evident from comparing its conclusions with the body of the report: in its effort to attack the mine project, EPA made conclusions that are not supported by the body of the report itself. This discrepancy did not escape the notice of peer reviewer John D. Stednick, Ph.D., who wrote: "The conclusions of the Executive Summary are strongly worded (e.g., pages ES 13 to 24), yet the uncertainties presented later in the report make the strong conclusions tenuous. An expanded discussion of uncertainties and limitations may temper those 'conclusions.'" Final Peer Review Report at 19.

Although the evidence shows that the Pebble mine project poses no significant risk to the Bristol Bay fishery, the Assessment has been drafted to make it appear that it does. This distorted picture is achieved largely through a common advocacy device: selective omission. The most important omissions are:

1. The Assessment avoids discussion of the watershed context

The Assessment speaks of lost streams and wetlands from the mine scenario footprint, but never confronts the fact that the entire mine scenario will occupy about 1/20th of 1% of the total Bristol Bay watershed, and a similar proportion of its aquatic habitat.

⁷ EPA Region 10, Bristol Bay: Frequently Asked Questions, available online at: http://yosemite.epa.gov/R10/ECOCOMM.NSF/Bristol+bay/faq.

⁸ U.S. EPA Region 10, A Watershed Assessment Primer, EPA 910/B-94/005, Seattle, WA (1994).

⁹ Primer, at 5.

¹⁰ *Id.* at 2.

EPA states that it "launched this assessment to . . . evaluate the impacts of large-scale mining . . . on *the region's fish resources*" and yet the Assessment avoids this subject almost entirely. Assessment ES-1 (emphasis added). It never even attempts to quantify harm to the Bristol Bay fishery from the hypothetical mining scenario, apparently because (as noted above) any such harm would be so insignificant.

Peer Reviewer Dr. Dirk van Zyl of the University of British Columbia, an expert in mining and biogeochemistry, observed: "It is unclear to the reader how significant a loss of 87.5 km of streams in the Nushagak River and Kvichak River watersheds is to the overall ecosystem." *Id.* at 58. Dr. Dennis Dauble adds: "What is lacking is quantitative estimates of spawning and rearing habitat that would be lost relative to the total habitat available. Having this information would help provide perspective of overall risk to individual watersheds and the Bristol Bay watershed as a whole." *Id.* at 53.

2. The Assessment ignores scientific, publicly-available information about fish in the Pebble region

EPA ignored the most informative data about fish distribution, relative abundance, and density in the Pebble region. These data came from private sources (including project proponents) and from public sources such as the Alaska Department of Fish and Game (ADFG). Examples of the information that EPA ignored include:

- the 2005 Northern Dynasty Minerals progress report on fish resource/habitat studies which included sampling locations, fish catch and distribution data, and fish density plots
- o the Environmental Baseline Document (EBD) released by the Pebble Limited Partnership in 2011 which contains site-specific, detailed information on fish distribution, relative abundance, and fish densities
- o fish distribution, relative abundance, and fish density information from the ADFG and J.W. Buell and Associates, both of which are publically available and on ADFG's Freshwater Fish Inventory website
- o data from fish collection permits issued by ADFG to private consultants of PLP, which is publicly available
- data and information presented at the annual agency meetings which included summary information and adult salmon population spawning escapement estimates
- o information and data presented at a June 12, 2008 PLP/Agency Fish Technical Work Group meeting in Anchorage which included an overview of all the studies conducted near the Pebble deposit including specific information on fish distribution and relative abundance. At this meeting, a notebook with hundreds of pages of specific fish distribution and catch data that had been submitted to ADFG as part of their collection permit requirements for the years 2004-2007 was used as a resource in the presentation by PLP. EPA's Phil North attended this meeting but did not ask for a copy of these data.

Statements in the Assessment that such detailed information was not available are obviously false. All of these comments and examples were submitted by Pebble Limited Partnership ("PLP") and Northern Dynasty Minerals ("NDM") during the first comment period, but EPA failed to incorporate any of this information in the second draft of the Assessment. In fact, the foundational assessment documents for fish (Appendix A (anadromous fish) and Appendix B (resident fish)) did not change from one draft to another.

Such data omissions are repeated throughout the Assessment. PLP spent roughly \$150 million to generate extraordinarily comprehensive environmental baseline information about the Pebble region, but only a limited amount of that information was ever incorporated into the Assessment, and virtually none of the incorporated information was used to determine the "ecological setting" or the ecological risk associated with the Assessment's (flawed) mine scenarios.

These omissions flout the common-sense principle – reiterated in EPA policy and guidance – to use the *best available* science and information. Consistent with EPA's Scientific Integrity Policy, EPA was required to "[e]nsure that the Agency's scientific work is of the highest quality, free from political interference or personal motivations." In particular, those responsible for the Assessment were required to use "the best available science and supporting studies conducted in accordance with sound and objective scientific practices" and "data collected by accepted methods or best available methods." Agency guidance further emphasizes "an inclusive approach" to assessing available evidence – one that requires EPA to "investigate the possible reasons for any disagreement [across different sources] rather than ignore inconvenient evidence." Here, instead of making use of the wealth of relevant, high-quality information from PLP and others, EPA ignored it. Whether the Assessment's data omissions were mere oversights, a product of haste, or – at worst – a deliberate manipulation of the information, they are indefensible.

3. The Assessment omits scientific analysis of compensatory mitigation

If, after minimizing the project's impact, there would still be a net loss of salmon habitat, PLP would be *required* to compensate for it, and would have more than enough viable options to accomplish that mitigation. The Assessment suggests that compensatory mitigation of a loss of habitat is unlikely to succeed, due to the absence of suitable mitigation sites. In fact, the Pebble deposit area has many such sites, and PLP has identified habitat enhancement opportunities that

¹¹ U.S. EPA, Scientific Integrity Policy, at 3.

¹² U.S. EPA, Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by the Environmental Protection Agency ("2002 Guidelines"), EPA/260R-02-008, at 19 (Oct. 2002); see also, e.g., U.S. EPA, Application of Watershed Ecological Risk Assessment Methods to Watershed Management, EPA/600/R006/037F, at 3 (Mar. 2008) ("Effective risk communication must accurately translate the best available and most useful scientific information in a manner understandable to managers and stakeholders." (emphasis added)); U.S. EPA, EPA Science Policy Council Handbook: Risk Characterization, EPA 100-B-00-002, at 18 (Dec. 2000) ("Reasonableness is achieved when . . . the characterization is based on the best available scientific information.").

¹³ U.S. EPA, Guidelines for Ecological Risk Assessment, EPA/630/R-95/002F, at 114, 115 (May 14, 1998).

could lead to a manyfold *increase* in habitat once compensatory mitigation is included in the analysis.¹⁴

EPA based the report on the environmental impacts of a mine project that included no environmental mitigation, although such protective measures are required by law. In Appendix J to the Assessment, EPA erroneously claims that there are no mitigation options within these three watersheds that could offset impacts associated with the Pebble project. ¹⁵ In support of these sweeping biological conclusions, EPA relies heavily on a recent article written by Thomas Yocum and Rebecca Barnard. Ms. Barnard is a lawyer representing the Bristol Bay Native Corporation in opposition to the Pebble Mine. ¹⁶ Mr. Yocum likewise is an active opponent of the Pebble Mine who recently authored anti-Pebble reports for the Bristol Bay Native Corporation and Trout Unlimited. ¹⁷

4. The Assessment omits modern mining practices from its risk scenarios

The Assessment devises exaggerated risk scenarios that are based on a hypothetical mine of the EPA's design at the location of the Pebble deposit. EPA's creation excluded modern mine design and operating practices. Thus the analysis omits the environmental protection and mitigation measures *required* for mine permitting. As a result, the Assessment overstates the risk of virtually every aspect of the operation of the hypothetical mine on which the report is based.

Mr. North, perhaps the primary Pebble opponent within EPA, has reported in an extensive interview published online (*Redoubt Reporter*, July 17, 2013, by Jenny Neyman) that he co-authored the mine design sections of the report. He admitted that this was "one of the most contentious parts of the assessment . . . the mining scenario on which much of the determination of potential environmental harm is based." In fact, the failure to include mitigation or modern mining practices in that scenario is one of the fundamental sources of bias in the Assessment. Mr. North's bare-bones mining scenario apparently stems from his view, reported in this interview, that "really, mining companies don't use state of the art because it's too expensive, so it's really more like the state of the practice."

The entire Assessment is largely grounded in Mr. North's low expectations for new mines, but Mr. North's low expectations are unrealistic. As Dr. Dirk van Zyl, Ph.D., P.E. bluntly concluded: ". . . it is inconceivable to me that the Bristol Bay communities, the Alaska regulatory authorities as well as Federal Regulatory Authorities will not demand that the company follow

 ¹⁴ Comments of Buell & Associates, Inc., An Evaluation of EPA's Bristol Bay Watershed Assessment 2013
 2nd Draft Assertions Regarding Fish Habitat Mitigation Measures Efficacy and Applicability, (May 22, 2013)
 15 Id., at 17.

¹⁶ See Thomas G. Yocum & Rebecca L. Bernard, *Mitigation of Wetland Impacts from Large-Scale Hardrock Mining in Bristol Bay Watersheds*, 3 SEATTLE J. ENVT. L. 71 (2013) (describing Ms. Bernard as outside counsel for the Bristol Bay Native Corporation).

¹⁷ See id. at 73 n.5 (referencing a report prepared by Mr. Yocum for the Bristol Bay Native Corporation and Trout Unlimited).

"best mining practices," however that is defined at the time. It is also inconceivable to me that the company will not follow "best mining practices" in the design and development of such a mine." Final Peer Review Report at 40.

The peer reviewers overwhelmingly supported Dr. Van Zyl's conclusion: a glaring flaw in the Assessment is its focus on a hypothetical mine that neither uses best mining practices nor conducts compensatory mitigation – a mine that could never be permitted. Numerous peer reviewers of the May 2012 draft commented on the Assessment's failure to evaluate a scenario that included best mining practices and mitigation. For example, peer reviewer David Atkins observed that "[T]he Assessment also does not consider alternative engineering strategies (so called "best practice" approaches) that could lessen the risk of failure and possibly the necessity for perpetual management and water treatment." Final Peer Review Report at 13. Peer reviewer Steve Buckley commented:

There is inadequate information on, and analysis of, potential mitigation measures at the early stages of mine development, which would attempt to reduce the impacts of mining activities on fish and water quality.

Final Peer Review Report at 14. Dirk van Zyl, the reviewer with the most experience in mine engineering, commented:

While the failure mode is adequately described, engineering and mitigation practices are not adequately described by EPA.

Any mine in Bristol Bay will have to undergo a rigorous and lengthy regulatory review and permitting process. I do not know of a process that will exclude consideration of the impact of all mine facilities on the streams and wetlands in the region. Therefore, I would suggest that the full implications of "mine operations conducted according to conventional practices, including common mitigation measures, and that meet applicable criteria and standard[s]" should have been addressed in the report. . . . "When damages to wetlands are unavoidable, the Corps can require permit[t]ees to provide compensatory mitigation." It is unclear why this was not included in the evaluations.

Id. at 48. Dr. van Zyl also pointed out that "there are reasonable mitigation measures that would reduce or minimize the mining risks and impacts beyond those already described and incorporated by the EPA in the assessment. There are a host of measures that are not addressed in the assessment" *Id.* at 102.

Phyllis K. Weber Scannell, a reviewer with extensive experience in mine permitting in Alaska, described some of the measures missing from the Assessment's scenario:

Chapter 4 provides a detailed description of a hypothetical mine design for a porphyry copper deposit in the Bristol Bay watershed. Some of the assumptions appear to be somewhat inconsistent with mines in Alaska. In particular, the descriptions of effects on stream flows from dewatering and water use do not account for recycling process water, bypassing clean water around the project, or treating and discharging collected water.

Id. at 49.

Reviewer David A. Atkins noted the importance of mine mitigation measures:

The Assessment describes what is considered to be conventional 'good' mining practice, but does not adequately describe and assess mitigation measures that could be required by the permitting and regulatory process. A thorough analysis of possible mitigation measures as employed for other mining projects and the likelihood that they could be successful in this environment would be necessary.

Id. at 99.

The peer reviewers also commented on some of the particular deficiencies of the mining scenario. For example, with respect to *culvert failures*, Phyllis K. Weber Scannell commented:

, Ph.D. - 75

The risks to salmonid fish due to culvert failures would be minimized by implementation of permits by Alaska Department of Fish and Game (ADF&G), Habitat Division. Under A.S. 16.05.840-870, Alaska has some of the most protective laws for fish and fish habitat in the United States. Further, given the lack of specific information on road alignments, construction methods and stream crossings, it is not possible to calculate lengths of affected streams, quantify loss of fish habitats, or predict failures of culverts, side slopes, etc.

With respect to *pipeline failures*, Dr. van Zyl observed:

The EPA Assessment does not identify or appropriately characterize the risks to salmonid fish due to pipeline failures. It only estimates the likelihoods of occurrence and the consequences.

Final Peer Review Report at 75. The chance of a tailings storage facility failure was given special prominence in the Assessment. On that subject, Dr. van Zyl noted:

I expect that a tailings review board will also be used for the Pebble Mine and the behavior of a tailings management facility designed and operated under these conditions will be more representative of the potential failure likelihoods expected for such a

facility. It is expected that this likelihood will be much lower than those used in the evaluations of the scenario in the EPA Assessment.

Final Peer Review Report at 84. The Assessment's poor characterization of the likelihood of such a failure drew the following comment from peer reviewer Charles Wesley Slaughter, Ph.D.:

The probability approach outlined for potential TSF dam failure is unpersuasive. It is difficult to relate to a number like "0.00050 failures per dam year," or to the implication on p. 4-47 that one can expect a tailings dam failure only once in 10,000 to one million "dam years." This could suggest to the casual reader that failure of the hypothesized TSF1 dam (for which one "dam year" is one year) should not be anticipated in either the time of human occupation of North America, or the span of human evolution.

Final Peer Review Report at 62.

The other technical comments on defects of various aspects of the scenario are too lengthy to repeat here, but they are summarized on pages 16-23 of the June 28, 2013 Comments on Second External Review Draft of "An Assessment of Potential Mining Impacts on Salmon Ecosystems of Bristol Bay, Alaska" (April 2013) prepared for Pebble Limited Partnership by Crowell & Moring LLP ("Crowell Comments") [Ex. 26]. The detailed technical comments are cited and discussed therein.¹⁸

4. Ignoring Important Environmental Data

PLP spent some \$150 million on independent scientists from many different consulting firms who studied the Pebble project environment. Their work resulted in an extraordinarily comprehensive set of environmental baseline data concerning every important aspect of the Pebble deposit's environment. PLP made all of these data available to EPA in January 2012, but the Agency's May 2012 draft report essentially ignored it. In fact, even in EPA's second draft—published a year later (April 2013)—EPA *still* ignored these data, which are by far the best and most comprehensive available.

EPA's failure to consider and evaluate with care these data (and data from other public sources) is among the fundamental deficiencies in the Assessment. As explained by Buell & Associates, Inc., "EPA drew the wrong conclusions regarding adult salmon spawning distribution and relative ecological importance by failing to examine site specific and publicly available data on the habitat conditions, fish species distribution, and densities of juvenile salmonids found in their mine development impact areas." Comments of Buell & Associates,

¹⁸ Tailings storage and operation: Knight Piésold Consulting, *Review of the Bristol Bay Assessment*, at 2 (June 28, 2013); wastewater treatment operation: Environmental Resources Management, *Comments on EPA's May 2013 Bristol Bay Assessment*, at 9 (June 28, 2013) ("ERM Comments"), Knight Piesold at 2-3; waste rock storage: Geosyntec Consultants, *Assessment of USEPA Response to Geosyntec's Comments on the Bristol May Watershed Assessment*, at 10-11 (May 22, 2013) ("Geosyntec Comments"); pipeline failures: Geosyntec Comments at 9-10; road corridor and culverts: Geosyntec Comments, Tbl. 1 at 11, 12.

Inc., An Evaluation of EPA's Bristol Bay Watershed Assessment 2013 2nd Draft Assertions Regarding Fish Habitat Mitigation Measures Efficacy and Applicability, at 12 (May 22, 2013) (herein "Buell & Associates"). For example, EPA concluded that salmon spawn above Frying Pan Lake in the South Fork of the Koktuli, a conclusion that is not supported by available data. Id. "If EPA had completed an adequate evaluation of the public sources of information, it is likely that their conclusions regarding the overall ecological significance and magnitude of potential impact would have been different. Id. at 14.

C. EPA Retained a Mine Opponent, Dr. Boraas, to Author an Appendix.

In addition, the Assessment's appendix on Native cultures (Appendix A) was authored by Professor Alan Boraas, who has been an open opponent of the Pebble Project since at least April 2007, when he was described as "a frequent op-ed contributor to the Anchorage Daily News. One of his targets for criticism is the Pebble copper project in southwest Alaska." He presented work he was contracted by EPA to undertake for the assessment at various anti-Pebble forums. There are also questions about how the individuals he interviewed were chosen and why he chose to concentrate on communities that were known to be actively opposed to Pebble.

Summary

In addition to instances of biased conclusions, poor science, and slanted presentation far too numerous to mention, the Assessment was *structured* to produce a distorted risk picture. First, the object of the Assessment is a hypothetical mine—a fictional mine devised by Mr. North, an EPA employee devoted to obtaining a preemptive veto—that could never be permitted because it fails to incorporate modern environmental protection practices. Second, the Assessment assumes that the impacts on fish from this fictional mine cannot be mitigated—contrary to legal requirements, and totally in disregard of ample information (provided to the Agency) that fish impact mitigation has been successfully accomplished for many years and can be accomplished here. Finally, it not only avoids placing the speculative harm to fish in the context of the Bristol Bay fishery (the resource of concern), it even ignores publicly available data about fish distribution, relative abundance, and density in the Pebble region itself.

The Assessment report's flawed structure and selective use of data apparently stem from a desire to construct a justification to veto the Pebble project and to lead the public to draw the wrong conclusions about the possible impacts of Pebble on the Bristol Bay fishery. The Inspector General should investigate the report to illuminate shoddy practices and to help assure that Agency policies on the use of science are not so flagrantly disregarded in the future.

III. EPA Manipulated the Peer Review Process to Try to Validate This Flawed Report.

¹⁹ J.P. Tangen, *Mining and the law: Rio Tinto and the Pebble project*, MINING NEWS, Vol. 12, No. 17 (Apr. 29, 2007).

Peer reviewing a scientific report should be a useful procedure. Here, however, EPA misused the peer review process in ways that contributed to the biased result.

A. <u>EPA Selectively Peer Reviewed Anti-Pebble Reports and Used Them Although</u> the Peer Reviewers Found Them to Be Biased and Unreliable

Following the issuance of the first External Review Draft of the Assessment, EPA engaged peer reviewers for the apparent purpose of legitimizing at least seven reports written by mine opponents that EPA intended to use in the final Assessment. EPA wrote that "[o]ther non-governmental organizations have collected data specific to the Pebble deposit site. USEPA subjected some of these documents to external peer review before incorporating this information into the assessment." Assessment at 2-3. EPA exclusively selected reports by paid mine opponents—none of them were by mine project proponents, or even by neutral authors. It does not appear that EPA was looking for unbiased science, but for support for a predetermined position.

Despite EPA repeatedly indicating that the Assessment would be conducted using "an open and transparent process," the public was not notified that these peer reviews would be taking place. EPA has never satisfactorily explained why those particular reports were selected. This peer review process was conducted completely in the dark.

PLP obtained copies of those peer review reports from EPA's website: they are so damning that their content probably is the reason why EPA described them so vaguely in the draft Assessment. The peer reviewers identified the biased nature of these reports, and their comments reveal that these reports have little scientific value. What little value they have comes from compilation of the results of studies by others, although those studies were apparently selected to support the authors' own anti-Pebble (or anti-mining) agenda. These circumstances suggest that EPA chose to use them not because of their scientific value, but because of their slant. For one study, in particular, ('Woody and Higman, 2011 – "Groundwater as Essential Salmon Habitat in Nushagak and Kvichak River Headwaters: Issues Relative to Mining"), the report describes findings from a *one-day survey* of streams in the project area. It is revealing that EPA spent time and money to Peer Review such a flimsy undertaking while wholly ignoring the tens of millions of dollars of scientific findings that PLP collected at the project site over *10 years* of effort.

The seven peer-reviewed reports are so biased that they have no place in an assessment that purports to be objective. These seven reports, the peer review comments, and the overt anti-Pebble mission of the authors are discussed in detail in the Crowell Comments at pages 32-40. [Ex. 26]

It is hardly surprising that the peer reviewers found bias in the foregoing studies. Most of the authors of the seven reports are paid opponents of the Pebble Project. The authors include

David Chambers, Stu Levit, Carol Ann Woody, Sarah O'Neal, Bretwood Higman, and Ann Maest. The Assessment also uses works by Kendra Zamzow.

David Chambers is the president of the Center for Science in Public Participation ("CSP2"), which opposes mining in general and the Pebble project specifically. Its website is located at http://www.csp2.org/. The website's project page discusses the organization's activities opposing Pebble and its involvement with others whose articles were selected by EPA for peer review. The website explains in relevant part:

Since 2007 CSP2 has been providing technical support to a loose coalition of groups opposed to the proposed [Pebble] mine. Dave Chambers, (general mining), Kendra Zamzow, (geochemistry), and Stu Levit, (reclamation and regulatory), have provided support from CSP2. CSP2 also utilized consultants Carol Ann Woody, Ph.D., and Sarah O'Neal, M.S., from Fisheries Research and Consulting to provide support on fisheries biology, and Ann Maest, Ph.D., and Cam Wobus, Ph.D., from Stratus Consulting to provide technical support on geochemistry and hydrology. Bretwood Higman, Ph.D., from Ground Truth Trekking provided fault and seismic research.

The research efforts of this technical team have led to a significant number of publications and professional presentations. Dave Chambers, and CSP2 consultant Bretwood Higman, developed a paper on the "Long Term Risks of Tailings Dam Failure" which has been presented at several professional meetings. Kendra Zamzow collected and analyzed water quality data from several sites in the area of the proposed mine "Investigations of Surface Water Quality in the Nushagak, Kvichak, and Chulitna Watersheds, Southwest Alaska, 2009-2010." Stratus Consulting has developed a state-of-the-art computer hydrologic model that is being used to develop predictions of groundwater and surface water flows, and the geochemistry of those waters, which would result from the development of the mine. Fisheries Research and Consulting has been involved in a multi-year survey to collect data on the presence of salmonids in the area, "Fish Surveys in Headwater Streams of the Nushagak and Kvichak River Drainages, Bristol Bay, Alaska, 2008 – 2010."

EPA released its Draft "Bristol Bay Watershed Assessment" in May, 2012. This is a significant scientific effort to evaluate the potential impacts of the Pebble mine on the Bristol Bay ecosystem. Dave Chambers and Kendra Zamzow provided technical critiques of the Draft to EPA with recommendations for improvement. CSP2 is also working with the Bristol Bay Native Corporation in its effort to convince EPA to invoke its power under section 404(c) of the Clean Water Act to veto the Pebble Project because it would have an "unacceptable adverse effect" on fisheries resources in the Bristol Bay region.

CSP2, http://www.csp2.org/projects (last accessed June 24, 2013) (emphasis added). Of these authors, Mr. Higman is the most versatile: he co-authored papers both on tailings dam failures (with Mr. Chambers) and on ground water being essential salmon habitat (with Ms. Woody). The Assessment also uses works by Ann Maest, Cam Wobus, and Kendra Zamzow, all of whom helped Mr. Chambers' firm provide technical support "to a loose coalition of groups opposed to the proposed mine." In addition to being a mining opponent, Ann Maest has been seriously discredited by her own employer, Stratus Consulting.²⁰

Lastly, if EPA believed it desirable that certain submissions by the public should be peer reviewed, then fairness demands that studies submitted by both proponents and opponents of the project should have been peer reviewed. PLP, the State of Alaska and several other organizations submitted such reports during the public comment period.

- B. EPA Attempted to Manage the Peer Review Process to Minimize Criticism
 - 1. <u>The Peer Review Was Inappropriately Constrained By EPA's Arbitrary Deadlines.</u>

The EPA's Peer Review process for the first draft watershed assessment (May 2012) should have produced an improved second draft, but it was conducted in a manner that minimized its impact. Part of the restriction was the schedule, which for this sort of document, EPA has kept extremely tight. The initial draft of the Assessment was prepared in about one year. By way of comparison, a review of all other watershed assessments undertaken by EPA shows most took significantly longer (5-11 years) to study much smaller land areas and less complex development issues. As part of EPA's imperative to issue the report quickly, the peer reviewers themselves commented that they needed more time to do justice to the magnitude of the assigned task. Peer Reviewer Dirk van Zyl, Ph.D., P.E., wrote:

My comments contained above and below are based on a single review of the report, i.e. contractual time constraints were such that I could not afford a second review of the

²⁰ Dr. Ann Maest is a "Managing Scientist" with Stratus Consulting. On April 12, 2013, a sworn declaration was filed in a New York federal district court by Mr. Douglas Beltman, Executive Vice President of Stratus, referring to work carried out by Stratus and Dr. Ann Maest, where he declared that he has "disavow[ed] any and all findings and conclusions" in certain Stratus reports relating to alleged oil contamination in Ecuador. *Chevron Corp. v. Donziger, et al.*, Witness Statement of Douglas Beltman, at ¶ 76, S.D.N.Y. No. 1:11-cv-00691-LAK (filed April 12, 2013). Mr. Beltman disavowed the Stratus scientific work, in part, because his own public statements regarding this project were "misleading" (¶ 66), and public statements by others associated with the project (including Dr. Maest) were unsupportable. *See, e.g.,* ¶ 73 ("I have no scientific bases to believe any of the public statements referenced above to be true."); *see also id.* ¶ 22 ("I supervised the preparation by Dr. [Ann] Maest and other Stratus personnel or subcontractors of 11 of the 24 sub-reports and appendices"). For more information regarding Dr. Maest, see American Resources Policy Network, *A Response to the EPA's Release of its Revised Bristol Bay Watershed Assessment* (Apr. 29, 2013), *available at* http://americanresources.org/a-response-to-the-epas-release-of-its-revised-bristol-bay-watershed-assessment/.

report. It is therefore possible that there are other errors remaining in the report that I did not observe in my review.

Final Peer Review Report, at 23.

EPA had no good justification for imposing such an abbreviated schedule. According to EPA's Peer Review Handbook, ²¹ "[t]he schedule for peer review should take into account the availability of a quality draft work product, availability of appropriate experts, time available for peer review comments, deadlines for the final work product, and logistical aspects of the peer review (e.g., contracting procedures)." Peer Review Handbook at § 3.3.1. Here, the complexity of the scientific issues, the absence of any obligatory deadlines, and the significant implications of the Assessment for future policymaking called for a generous schedule rather than the condensed period the Peer Reviewers were allowed. Ultimately, EPA's unnecessary haste undermined the potential for high-quality assessment, and further calls into question the basic scientific rigor and objectivity of the Assessment.

2. EPA Manipulated the Peer Review Procedures To Minimize Criticism.

The Peer Review process was also managed in a way that seriously limited public input, and appears to have been designed to limit Peer Review criticism of the draft Assessment. Importantly, the Peer Reviewers were not given Pebble Limited Partnership ("PLP") or Northern Dynasty Minerals ("NDM") comments on the draft Assessment prior to the filing of their peer review submissions. The Open Meeting that EPA coordinated with the Peer Review panel was woefully inadequate for the level of public interest generated by the draft Assessment. Speakers were limited to three minute presentations and were forbidden from providing written submissions. EPA also directed the peer reviewers to respond to a set of questions ("the charge") that narrowed the scope of the peer review to topics selected by the Agency. PLP requested EPA to allow the peer reviewers to address other questions, but (with one minor exception) those requests were rejected. Such efforts to limit stakeholder input fly in the face of established Agency policy and guidance, not to mention EPA's own prior pronouncements with respect to this particular Assessment. EPA's Peer Review Handbook states that "[w]hen employing a public comment process as part of the peer review, Offices should provide the reviewers access to the public's comments that address scientific or technical issues." Peer Review Handbook § 3.3.1; see also id. at §§ 2.4.7, 1.5.3, 3.5.2 (echoing the obligation to provide access to significant public comments). Likewise, EPA's original Peer Review Plan for the Assessment indicated that EPA would indeed "provide significant and relevant public comments to the peer reviewers before they conduct their review." Peer Review Plan, http://cfpub.epa.gov/si/si public record report.cfm?dirEntryId=241743 (select hyperlink to "Peer Review Plan"). For an Assessment evaluating the impacts of a potential future Pebble mine, surely the detailed technical comments of PLP and NDM were "significant and relevant." These comments plainly should have been provided to the Peer Reviewers.

²¹ See U.S. EPA, Science Policy Council. *Peer Review Handbook* (3d ed.) ("Peer Review Handbook"), EPA/100/B-06/002 (2006).

Other EPA actions similarly exceeded the proper limits on its involvement in the Peer Review process. Two days after its Open Meeting with the peer review panel, EPA attended and participated in a closed meeting with the peer reviewers. The public was excluded from this meeting and the actual discussions have never been disclosed. Such *ex parte* contacts between EPA and the members of an appointed Peer Review team are prohibited. Where, as here, EPA has relied on a contractor to direct the peer review process, "EPA should limit direct contact to the prime contractor's designated representative and should not have general contact and direction to the contractor's staff or peer reviewers (sub-contractors)." Peer Review Handbook at § 3.5.3(b).

Finally, the summary of Peer Review comments on the first draft BBWA report prepared by EPA's contractor substantially understated the Peer Reviewers' criticisms. While the summary of the Peer Review panel's "Key Recommendations" generally reflects individual comments offered by the Peer Reviewers, missing from the "Key Recommendations" is the tone and incisiveness of the individual written comments. The "Key Recommendations" are in fact written as just that – recommendations, not *criticisms*. Many of the specific criticisms are not repeated, and often they do not appear except by implication. Those implications tend to be general and vague. In contrast, the individual critical comments tend to be specific, clear, and authoritative, in some cases denoting fundamental flaws in the Assessment. *See*, *e.g.*, Final Peer Review Report at 39 ("While some of the components of the final mine may contain elements of the conceptual mine, it is impossible to know whether the hypothetical mine scenario is realistic I therefore consider the mine scenario not sufficient for the assessment.").

3. EPA's Second Peer Review Ignored Transparency Entirely.

The peer review of the second draft of the Assessment was even more shielded from public scrutiny than was the first. Peer Review of the second draft of the Assessment (April 2013) was done in absolute secrecy and demonstrated even less regard for OMB Guidelines and EPA handbooks than the original Peer Review. The questions asked and responses received from the Peer Reviewers have never been disclosed, and EPA has communicated that it may publish the final Assessment before any public disclosure of the Peer Review comments has been made. EPA provided absolutely no public access to the Peer Reviewers over the course of the process, nor, insofar as we know, were the Peer Reviewers provided access to the comprehensive and highly detailed comments critical of the second draft of the Assessment prepared by PLP and NDM.

EPA's own peer review handbook shows EPA's astonishing degree of disregard of proper procedures. EPA wrote that "One important way to ensure decisions are based on defensible science is to have an open and transparent peer review process." Peer Review Handbook at xiii. The need for a transparent Peer Review process is not limited to any single aspect or phase of Peer Review. "In general, an agency conducting a peer review of a highly influential scientific assessment must ensure that the peer review process is transparent by making available to the public the written charge to the peer reviewers, the peer reviewers' names, the peer reviewers' report(s), and the agency's response to the peer reviewers'

reports(s)."²² By denying stakeholders and the general public even the most basic information about the second Peer Review in advance of the final Assessment's release, EPA jeopardized the integrity of its peer review process.

Summary

A peer review should be a transparent process that allows experts to critique a draft report for scientific validity. EPA's manipulation of the peer review process here reveals other agendas. The most blatant was its attempt to use peer review to legitimize seven reports by self-professed mine opponents (and *none* by neutral parties or mine proponents, who submitted many scientific reports) by peer reviewing them. The peer reviewers found the studies to be biased and unreliable, but EPA used them anyway.

The peer review of the first draft of the Assessment was not an unrestricted, transparent critique: EPA imposed time constraints that limited the depth of the review; it restricted the charge questions; it limited public input to the peer reviewers to three-minute presentations; and it followed two days of public sessions with a next-day closed meeting that included EPA, excluded the public, and has never been transcribed. Despite these limitations, the peer reviewers recognized significant flaws in the report.

The peer review of the second draft of the Assessment was conducted *completely* in the dark. There was no public input at all, and no disclosure of peer reviewer comments. We do not know what the peer reviewers were asked to comment on, how much time they were given, or what they said. What was supposed to be transparent had become clandestine, thus diminishing the credibility and value of what should have been a salutary process.

The Inspector General Should Investigate Whether EPA's Actions Violate the Information Ouality Act

A biased report and biased process violate the Information Quality Act ("IQA") and the OMB and EPA guidelines promulgated pursuant thereto. Section 515 of the IQA directs federal agencies to maximize "the quality, objectivity, utility, and integrity" of the information they create, collect, and disseminate. 44 U.S.C. § 3516 note. According to the OMB guidelines, "objectivity" requires disseminated information to be "presented in an accurate, clear, complete, and unbiased manner, and as a matter of substance, is accurate, reliable, and unbiased." Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by Federal Agencies, 67 Fed. Reg. 8452, 8453 (Feb. 22, 2002). "Utility" is a requirement for the information to be useful. *Id.* at 8459. Stricter standards apply to information like the Assessment that is "influential." Influential" information refers to

²² Office of Management and Budget, *Final Information Quality Bulletin for Peer Review*, at 1-2 (Dec. 15, 2004).

²³ In addition to the obvious policy implications of the Assessment (EPA's stated intent to use the Assessment in later decision-making regarding a future Pebble mine), EPA's Peer Review Plan for the Assessment expressly designated it "highly influential." *See* http://cfpub.epa.gov/si/si_public_record_report.cfm?dirEntryId=241743. (Continued...)

information that "will have or does have a clear and substantial impact (i.e., potential change or effect) on important public policies or private sector decisions." U.S. EPA, *Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by the Environmental Protection Agency* ("2002 Guidelines"), EPA/260R-02-008, at 19 (Oct. 2002. As noted at the outset of this letter, a decision to veto this project would substantially harm the regional, Alaskan, and U.S. economies. OMB reminds agencies that it is "crucial that information Federal agencies disseminate meets these guidelines." *Id.* at 8452.

The EPA information-quality guidelines require EPA to ensure the objectivity of influential scientific information by relying on the "best available science and supporting studies conducted in accordance with sound and objective scientific practices." Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity, of Information Disseminated by the Environmental Protection Agency, EPA/260R-02-008, October 2002, at Sec. 6.4 (EPA applies quality standards adapted from the Safe Drinking Water Act to all agency risk assessments, including ecological risk assessments).

Here, for the reasons described above, even the limited evidence available without an investigation strongly suggests that the EPA report fails to meet the IQA requirements for objectivity or utility.

Conclusion

The Pebble Project is among the most significant mineral deposits ever discovered. It has the potential to supply as much as one-quarter of the United States' copper needs over more than a century of production, while supporting 15,000 high-wage American jobs and contributing more than \$2.5 billion to the country's GDP each year. It is located on State of Alaska lands accepted by the state as part of a land swap with the federal government specifically for its mineral potential, and designated through two public land-use planning processes for mineral exploration and development. It also appears to be the target of long-standing secret collaboration between senior EPA officials and environmental activists to secure the first-ever pre-emptive 404(c) veto of a major development project in the 43-year history of the Clean Water Act.

EPA Employees Have Been Working For Years to Promote a Veto

Furthermore, there is now considerable evidence from heavily redacted emails that the impetus for seeking a pre-emptive 404(c) veto of the Pebble Project did not come from federally recognized tribes in Alaska, as EPA has repeatedly claimed, but from agency officials themselves. This evidence, obtained under the Freedom of Information Act from EPA, suggests that EPA officials in Alaska began musing about the potential for a pre-emptive 404(c) veto of

²⁴ EPA guidelines available online at http://www.epa.gov/quality/informationguidelines/documents/EPA InfoQualityGuidelines.pdf

the project, and lining up other federal agencies to support this plan, some two years before the first petition was received from federally recognized tribes. The heavily redacted emails produced by EPA have provided a glimpse into an unacknowledged EPA initiative, apparently begun by Phil North, to veto the Pebble project, to promote activist support for a veto, and to enlist other federal agencies such as the Fish and Wildlife Service to support a veto ("This is going to happen and it's going to get bloody. I am looking forward to it!"). This activity began secretly long before EPA received the petition that it claims caused EPA to initiate the Assessment. Its full scope is still unknown, and warrants further investigation.

EPA's routine collaboration with Pebble opponents, while keeping others in the dark (including PLP, mine project supporters, and the general public) shows an agency providing special access and special treatment to Pebble opponents. Emblematic of this collaboration is the transmittal of a letter from the Administrator to PLP's Chief Executive Officer, the only addressee of the letter, only *after* it was circulated to Pebble opponents.

The Assessment Report Is Biased to Support a Veto and Is Fundamentally Flawed

EPA's own agenda and its collaboration with mine opponents have produced an Assessment that violates EPA's own policies. The Assessment is a document written to create fears of calamity without ever assessing the real likelihood of harm to the salmon in Bristol Bay. Data in the report show that the entire mine scenario will occupy about 1/20th of 1% of the total Bristol Bay watershed, and a similar proportion of its aquatic habitat. Even the vast 400 square mile watershed area surrounding Pebble produces only about one-half of 1% of the sockeye salmon upon which the Bristol Bay commercial fishery is based.

The Assessment evaluates a mine scenario co-authored by Mr. North (EPA's principal early advocate for a veto of the Pebble project) who has publicly admitted that he did not include state of the art technology because he assumed that mining companies would not use what is available. This critical flaw was recognized by numerous independent peer reviewers (selected by EPA), who said precisely the opposite—that the permitting process would require much more and better technology than what EPA used for its Assessment. This Assessment uses a mine scenario that fails to meet legal *requirements* to protect against harm to salmon, by assessing a fictional mine that does not meet modern standards for environmental protection.

By ignoring available evidence gathered by PLP and from public sources, the Assessment authors overstated the presence of salmon living where the mine is assumed to be constructed. It assumes that no mitigation will be available based on a report by avowed mine opponents who represent anti-Pebble activists. This assumption is belied by decades of evidence about the effectiveness of salmon habitat mitigation techniques.

For scientific support, the Assessment uses numerous studies by anti-mine activists. EPA quietly commissioned Peer Reviews of seven studies authored by anti-Pebble activists, presumably in hopes of bolstering their credibility. No studies supportive of the Pebble Project received any such treatment, including the Pebble Partnership's \$150 million contribution of the

most comprehensive and relevant environmental data set available on the region. When EPA quietly had seven of those studies peer reviewed, EPA's own peer reviewers found them to be biased and unreliable, but EPA used them anyway.

EPA Manipulated the Peer Review Process to Support Its Preferred Result

Finally, EPA manipulated the peer review of the Assessment itself in a way designed to minimize criticism of the Assessment. EPA violated its own standards when, during the first peer review, it unduly restricted the schedule, shielded the peer reviewers from public comments, and then held a closed-door meeting with the peer review panel. During the second peer review, EPA shut out the public entirely, completely violating its own standards for transparency.

For the first peer review, EPA provided a very narrow charge to the Peer Reviewers for their review of the initial watershed assessment draft in 2012, and limited public access to the Peer Review panel to three-minute per-person verbal presentations. EPA met with Peer Reviewers in private, refused to release their full reports on the watershed assessment document and subsequently published a significantly watered down summary report. Notwithstanding these limitations, the Peer Reviewers gave voice to some very serious criticisms of the watershed assessment, some of which are presented in this submission.

For the second draft of the watershed assessment in 2013, EPA provided its charge to Peer Reviewers in private. In fact, no public access to the Peer Reviewers was permitted whatsoever, and EPA recently reported it may publish the final draft of the watershed assessment before any Peer Review input is made public. While EPA's management of the Peer Review process in 2012 fell well short of the agency's own guidelines for such processes, the 2013 Peer Review made an open mockery of them.

Request for Investigation

In summary, the agency's bias has created a heavily biased scientific report that contravenes the IQA prohibition against allowing bias to infect the agency's scientific assessment of environmental risk. We respectfully request that the Inspector General investigate the issues raised above. We would greatly appreciate your timely attention to these EPA activities, and we would be pleased to meet with you to discuss any aspect of this request.

Sincerely,

Richard E. Schwartz

Attorney for Northern Dynasty Minerals Ltd.



Re: Aug mining team meeting

Phil North to: Patricia McGrath Co: Hanh Shaw, John Pavitt

08/26/2008 03:28 PM

From:

Phil North/R10/USEPA/US

To:

Patricia McGrath/R10/USEPA/US

Cc:

Hanh Shaw/R10/USEPA/US@EPA, John Pavitt/R10/USEPA/US@EPA

In a nut shell - Both Chuitna and Pebble are highly technical projects with very sensitive resources at risk, and lots of public interest. Of course we always want make sure our analysis is complete on these large projects, but these, and Pebble in particular, feel to me like they are in another league. I would appreciate the opportunity to evaluate the technical issues associated with each of these project in collaboration with the other Regional experts involved. The purpose would be to identify areas where we are confident in our position, or at least direction, and areas where we are not, and perhaps need more analysis. An example is the seismic sensitivity of tailings impoundment at the Pebble site. The company is using the commonly accepted time interval and seismic event to determine vulnerability, but in this case I don't think that is adequate. The amount of tailings stored is monumental and the resource at risk is incomparable anywhere in the world. So what do we do? I would really like to discuss this with the team. An in-person discussion would be much more effective than on the phone. I feel like I have a lot on my shoulders in both of these cases. The 404 program has a major role. I would like the benefit of hearing what other EPA folks are thinking.

Phillip North
Environmental Protection Agency
Kenai River Center
514 Funny River Road
Soldotna, Alaska 99669
(907) 714-2483
fax 260-5992
north.phil@epa.gov

"To protect your rivers, protect your mountains." Patricia McGrath/R10/USEPA/US



Patricia McGrath/R10/USEPA/US 08/26/2008 02:37 PM

To Phil North/R10/USEPA/US@EPA

CC Hanh Shaw/R10/USEPA/US@EPA, John Pavitt/R10/USEPA/US@EPA

Subject Re: Aug mining team meeting

I was not planning a mining team retreat. However, if folks express interest I could change my mind (!). Anyway what are your ideas and what technical issues would you want to discuss. Alternately we could devote the next few mining team meetings to a discussion of these issues. Would need to know in advance to ensure that we get good participation.

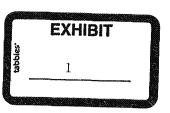
- Patty

Phil North/R10/USEPA/US



Phil North/R10/USEPA/US 08/20/2008 07:08 AM

To Patricia McGrath/R10/USEPA/US



EPA-7609-0014888 00027



cc Hanh Shaw/R10/USEPA/US, John Pavitt/R10/USEPA/US Subject Re: Aug mining team meeting

Hi Patty,

Are you planning a mining team retreat this year? I am hoping to convince the coordinators for the Pebble and Chuitna mines to have mini retreats in association with the team retreat. I would really like to get all the involved folks together to talk about technical issues associated with those mines.

Phil

Phillip North
Environmental Protection Agency
Kenai River Center
514 Funny River Road
Soldotna, Alaska 99669
(907) 260-4882 x226
fax 260-5992
north.phil@epa.gov

"To protect your rivers, protect your mountains."



Chuitna and Pebble Retreats

Phil North to: Michael Szerlog, Marcia Combes

Co: Hanh Shaw, John Pavitt

08/17/2009 02:04 PM

From:

Phil North/R10/USEPA/US

To:

Michael Szerlog/R10/USEPA/US@EPA, Marcia Combes/R10/USEPA/US@EPA

Co:

Hanh Shaw/R10/USEPA/US@EPA, John Pavitt/R10/USEPA/US@EPA

Michael and Marcia,

It looks like the team meetings for these two mines will happen, pending availability of critical team members. We will try to take advantage of the Alaska team members being in Seattle for the Regional Mining Team Retreat on September 18. The NPDES program is retreating on the 17th so we are proposing the two mine teams (which are all the same except for John Pavitt) meet on the 16th. I wanted to extend an invitation to the two of you. Each mine will be discussed for up to half the day.

The draft agenda is:

Overview of parts of the mine - Hanh/John Quick review of EPA responsibilities NEPA issues - Hanh (Hanh on Pebble?) NPDES issues - Cindi 404 Issues - Phil

Quick review of studies relevant to the above.

Discussion about weaknesses, missing information and fatal flaws.

Discussion about the EPA position on all of the above.

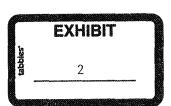
Discussion about the appropriate action in response to our position.

As you know I feel that both of these projects merit consideration of a 404C veto. We will discuss this from a technical perspective and staff perspective at these meetings.

Phil

Phillip North
Environmental Protection Agency
Kenai River Center
514 Funny River Road
Soldotna, Alaska 99669
(907) 714-2483
fax 260-5992
north.phil@epa.gov

"To protect your rivers, protect your mountains."





Chuitna and Pebble Team Retreats

Lorraine Edmond, Jean Zodrow, Patricia

Hanh Shaw to: McGrath, John Pavitt, Cindi Godsey, Phil North,

Marcia Combes

Co: Keith Cohon, Tami Fordham, Michael Lidgard, Michael Szerlog

From:

Hanh Shaw/R10/USEPA/US

To:

Lorraine Edmond/R10/USEPA/US@EPA, Jean Zodrow/R10/USEPA/US@EPA, Patricia

McGrath/R10/USEPA/US@EPA, John Pavitt/R10/USEPA/US@EPA, Cindi Godsey/R10/USEPA/US@EPA, Phil North/R10/USEPA/US@EPA, Marcia

Cc:

Keith Cohon/R10/USEPA/US@EPA, Tami Fordham/R10/USEPA/US@EPA, Michael

Lidgard/R10/USEPA/US@EPA, Michael Szerlog/R10/USEPA/US@EPA

Please mark your calendars for a one-day team retreat on September 16, 2009, with the morning (9-12) devoted to Chuitna; and the afternoon (1-4) to Pebble discussions. The retreat will be held in the Nisqualli conference room on the 15th floor. Below is the general agenda for both project discussions:

Overview of mine components and general mine plan - Hanh/John

EPA responsibilities

NEPA issues - Hanh NPDES issues - Cindi 404 Issues - Phil Air Permitting Issues - John

Overview of studies relevant to the above

Discussion about weaknesses, missing information, and fatal flaws

Discussion about the EPA positions on all of the above

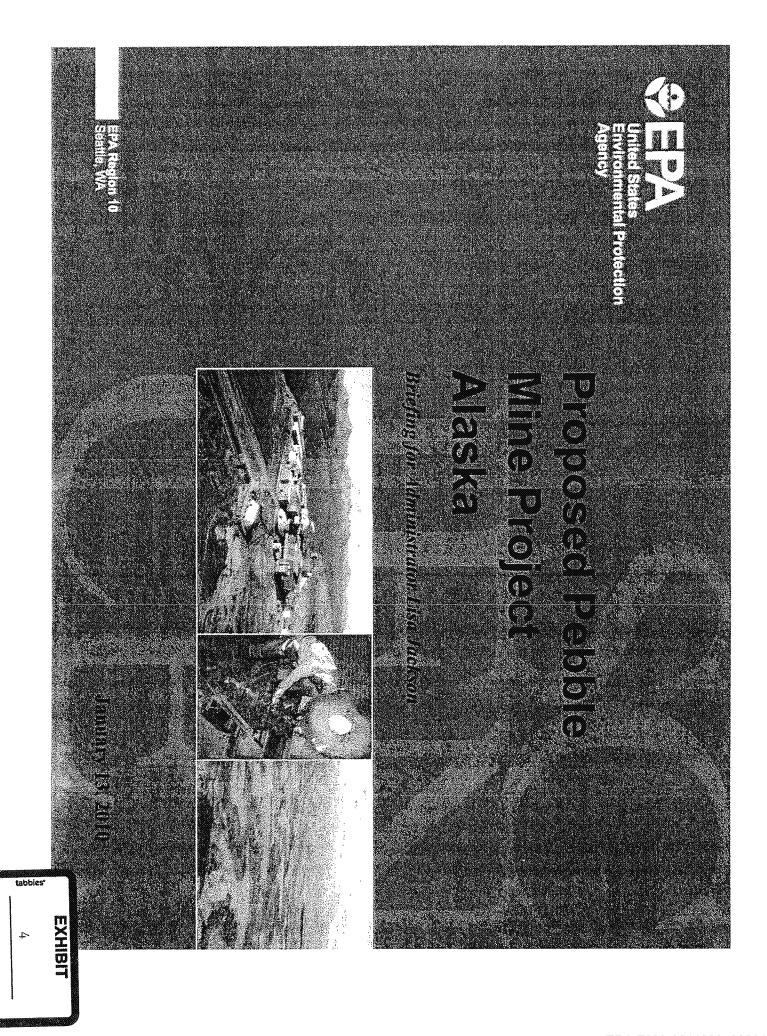
Discussion about the appropriate communication to the developer and affected State/Federal Agencies, and as needed, action in response to our position

Timelines, schedules, and next steps

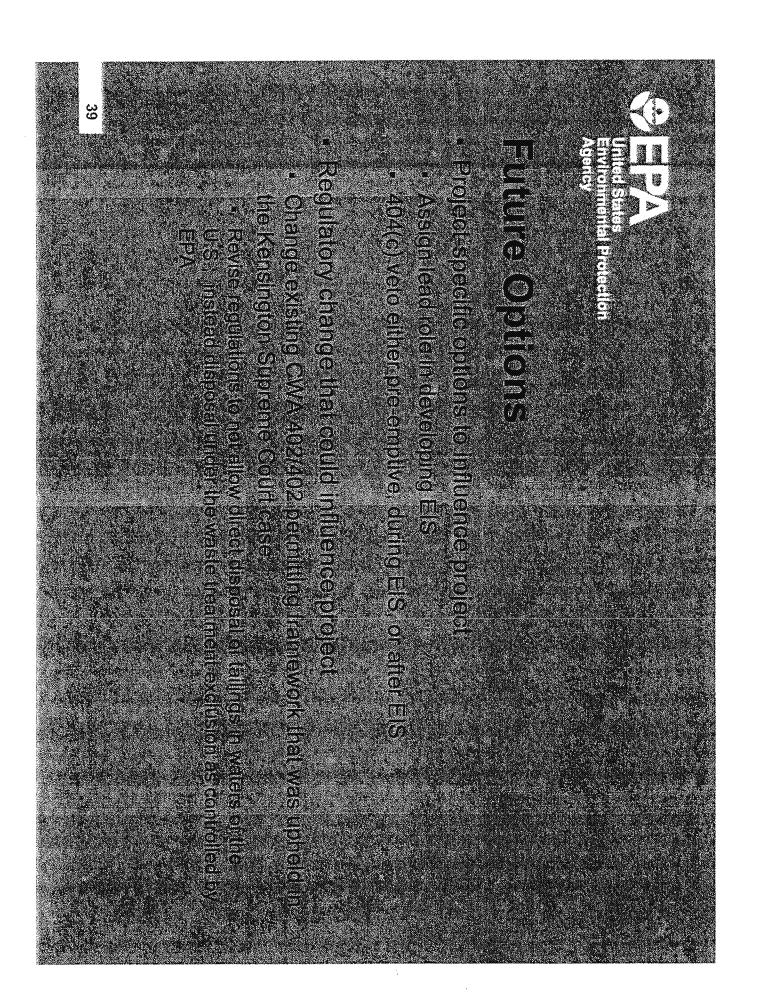
Please let me know if you have any questions.

Hanh

08/24/2009 08:51 AM







EPA-3321

Phil North/R10/USEPA/US 06/25/2010 01:27 PM



Subject Visit by Dennis McLerran

Hi Rick,

Sorry for the delay in getting you this number. I have been on the phone on this same topic since we talked.

Kendra Tyler is the Regional Administrator's (Dennis McLerran) secretary her phone number is 206-553-0041.

As an introduction: I am an ecologist in the Aquatic Resources Unit (ARU) in the Office of Ecosystems, Tribal and Public Affairs. I was assigned to work on the Pebble mine about five years ago. I have been spending a lot of my time on it. It is my group ARU that has the authority under Clean Water Act 404(c). It is my group that is doing the technical evaluation. If Mr. McLerran visits Bristol Bay this summer, I hope to go along.

I have a fairly long personal history in Alaska including some time in Bristol Bay. Starting in 1975, before college, I worked for my uncle on salmon tenders around Alaska. He had a fish buying station in South Naknek so that is where I spent the early part of every summer. Then we went on to Kodiak, Prince William Sound and Cook Inlet. I fished crab in the Bering Sea one year, but that was the year of the crash. It was on to college for me after that.

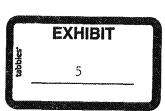
I am now a fish biologist by training and, having attended college on the west coast, salmon has always been the focus. I have worked for EPA in Alaska since 1989, with a few years at the Fish and Wildlife Service (FWS) in California before that. While at FWS my job was to figure out how much water to release from dams to maintain the remnant salmon in California streams. It is much more satisfying to work to maintain healthy salmon runs.

Tribes have a special role in Pebble issues because of government-to-government relations. EPA takes that very seriously. I encourage you to develop that relationship as much as you can. I look forward to talking with you more in the future.

Phil

Phillip North
Environmental Protection Agency
Kenai River Center
514 Funny River Road
Soldotna, Alaska 99669
(907) 714-2483
fax 260-5992
north.phil@epa.gov

"To protect your rivers, protect your mountains."





RE: following up on our meeting on Juen 30, 2009

jeff parker to: Mike Bussell

Christine Psyk, Edward Kowalski, Marcia Combes, John Pavitt,

Patricia McGrath

History:

This message has been replied to.

Mr. Bussell,

Thank you. We will get in touch with Mr. Pavitt.

Jeff

----Original Message----

From: Bussell.Mike@epamail.epa.gov [mailto:Bussell.Mike@epamail.epa.gov]

Sent: Thursday, September 17, 2009 10:51 AM

To: jeff parker

Cc: psyk.christine@epa.gov; Kowalski.edward@epa.gov; combes.marcia@epa.gov;

Pavitt.John@epamail.epa.gov; Mcgrath.Patricia@epamail.epa.gov Subject: Re: following up on our meeting on Juen 30, 2009

Jeff,

John Pavitt is our project manger on Pebble. He works out of our Anchorage office and I have cc'd him on this response. His phone number is $[Ex.6\,PH]$

"jeff parker"

Ex. 6 PII, Jeff Parker

09/16/2009 05:42 PM Christine Psyk/R10/USEPA/US@EPA, Marcia Combes/R10/USEPA/US@EPA, Edward Kowalski/R10/USEPA/US@EPA, Mike Bussell/R10/USEPA/US@EPA

CC

TO

09/17/2009 11:51 AM

Subject

following up on our meeting on Juen 30, 2009

Ms. Psyk, Ms. Combes, Mr. Kowalski, and Mr. Bussell:

You may recall that at our meeting on June 30 in Anchorage, I said that I represent six Tribes that are suing the State of Alaska and its Department of Natural Resources to overturn the current 2005 Bristol Bay Area Plan. As I said, they are likely to want to commence initial

EXHIBIT

6

discussions with EPA and the Corps of Engineers about possibly being cooperating agencies on a future EIS on Pebble Mine.

I need to know to whom at EPA I should address such correspondence. I would also appreciate knowing the name and address of the appropriate counterpart at the Corps to whom I should address such correspondence.

I am attaching a copy of the Amended Complaint so that you can start to know the issues. Regardless of the outcome of the litigation, they are likely to affect the context and content of the EIS process.

Thank you,

Geoffrey Y. Parker [Ex.6PII | See attached file: Corrected Final Am. Complaint.pdf)

THE LAW OFFICE OF

GEOFFREY Y. PARKER

Phone: (907) 222-6859 Fax: (907) 277-2242

E-mail: Ex. 6 PII, Jeff Parker

634 K Street Anchorage, Alaska 99501

To: Sally Thomas and Linda Anderson-Carnahan, EPA, Seattle

Cc: Marianne Holsman and Kendra Tyler, EPA, Seattle

From: Geoffrey Y. Parker

Re: Contact Information for my tribal and other clients for purposes of any arranging any

meeting responsive to Mr. Akelkok's invitation of April 14, 2010 to Mr. McLerran, regarding the potential Pebble mine, the Tribes' 404(c) request, and related matters.

Date: June 11, 2010

I understand from Phil North, of EPA in Alaska, that either of you might be responding to a letter, dated April 14, 2010 and attached, by which Mr. Luki Akelkok, President, Ekwok Village Council, invites Mr. McLerran to visit the Bristol Bay drainages of Alaska this summer, and volunteers to assist in coordinating with other Tribes and interests in the area.

I told Mr. North and Ms. Holsman that I would forward to EPA my list of contact information, attached, for the six Tribes which recently sent a letter to Mr. McLerran and to Ms. Jackson requesting that EPA to commence a 404(c) process with respect to certain lands in the Kvichak and Nushagak drainages of Southwest Alaska, and for AIFMA Cooperative (a cooperative of commercial fishers) and Trout Unlimited, both of which have communicated to EPA their support for the Tribes' 404(c) request. Mr. Akelkok has suggested that Ekwok's Tribal Administrator, Richard King, can assist you coordinating for all eight of my clients on matters related to Mr. Akelkok's invitation.

If I can be of further assistance, please advise. Phone communications in SW Alaska are not easy during the summer. I often find that tribal administrators can assist.

Thank you.

EXHIBIT

19
7

EPA-3295

Phil North/R10/USEPA/US

To "jeff parker"

06/09/2010 05:01 PM

cc bcc

Subject Re: FW: [bbwg] Recent KDLG stories

Thanks Jeff. This is a strong argument for a broad approach to 404(c) and to separate it from the Pebble project.

Phillip North
Environmental Protection Agency
Kenai River Center
514 Funny River Road
Soldotna, Alaska 99669
(907) 714-2483
fax 260-5992
north.phil@epa.gov

"To protect your rivers, protect your mountains."

"jeff parker"

Phil,

06/09/2010 02:37:51 PM

From:

To:

"jeff parker" Phil North/R10/USEPA/US@EPA

Date:

06/09/2010 02:37 PM

Subject:

FW: [bbwg] Recent KDLG stories

Phil,

FYI. You might want to listen to the third piece re Kennicott planning areal-magnetic survey at Groundhog Mt. on NE edge of Pebble area.

Jeff

From: Alannah Hurley [

Sent: Wednesday, June 09, 2010 10:57 AM

To: Bristol Bay Working Group

Subject: [bbwg] Recent KDLG stories

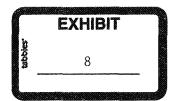
Shoshone Leaders Meet Alaskan Native Leaders To Talk About Open Pit Mining 06/04/10

http://kdlg.org/news/archive.php?id=654

New Executive Director for Nunamta Aulukestai 06/01/10

http://kdlg.org/news/archive.php?id=647

Mining Company Explores Groundhog Mountain



EPA-7609-0014888 00038

http://aprn.org/2010/06/08/mining-company-explores-groundhog-mountain/

EPA-3243

Phil North/R10/USEPA/US

To "Peter Van Tuyn"

08/12/2010 02:45 PM

cc bcc

Subject Re: Bristol Bay Native Corporation 404c letter

Hi Peter,

We have been discussing 404(c) quite a bit internally at all levels of EPA. This letter will certainly stoke the fire. I look forward to talking with you in the near future.

Phil

Phillip North
Environmental Protection Agency
Kenai River Center
514 Funny River Road
Soldotna, Alaska 99669
(907) 714-2483
fax 260-5992
north.phil@epa.gov

"To protect your rivers, protect your mountains."

"Peter Van Tuyn"

Phil,

08/12/2010 01:35:21 PM

From:

"Peter Van Tuyn"

To:

Phil North/R10/USEPA/US@EPA

Date:

08/12/2010 01:35 PM

Subject:

Bristol Bay Native Corporation 404c letter

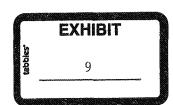
Phil,

Attached to this email please find a letter from the Bristol Bay Native Corporation requesting that EPA use its authority under Clean Water Act Section 404(c) to prohibit the discharge of mine waste material into certain lands in the watershed of Bristol Bay. Pebble Limited Partnership is proposing a massive mine in this area, and BBNC believes that the proposed mine has an unacceptable risk of adverse impacts on critical area resources. I also attach a press release on the matter.

Please let me know if you have any questions, and I look forward to catching up with you in the coming days.

Best, Peter Van Tuyn

Peter Van Tuyn Bessenyey & Van Tuyn, L.L.C. 310 K Street, Suite 200 Anchorage, AK 99501



EPA-7609-0014888 00040

(907) 278-2000 (907) 278-2004 fax bvt-law.com

Confidentiality Notice: This communication may contain attorney-client privileged or other confidential information. If you are not the intended recipient, or believe that you may have received this communication in error, you should not read it. Instead, please reply to the sender indicating that fact and delete the copy you received. You may not print, copy, retransmit, disseminate, or otherwise use the information.

	Information	from	ESET	Smart	Security,	version	of virus	signature	database	5361
(20100812)										

The message was checked by ESET Smart Security.

http://www.eset.com[attachment "EPA 404c 081210 FINAL signed.pdf" deleted by Phil North/R10/USEPA/US] [attachment "BBNC EPA 404c PR 081210 FINAL.pdf" deleted by Phil North/R10/USEPA/US]



Phil Bma/R7/FWS/DOI 09/23/2010 11:14 AM

To Frances_Mann@fws.gov

cc Ann Rappoport/R7/FWS/DOI@FWS

bcc

Subject Pebble and 404c

I spoke with Phil North. He has now briefed people in EPA all the way up to the assistant administrator. He believes EPA leaders have decided to proceed and they are just deciding when. They say in the next "couple of weeks" but it will probably be after the November election. Trout Unlimited has been talking with many congress people and agency folks at the DC level about this as well. He is sending me contact info for the TU person so we can talk with them. I want to find out who they are talking with at the Service and DOI. Also, Bristol bay commercial fisherman have sent a letter to over 150 fishing groups in the lower 48 and they are getting support to push 404c and oppose pebble. So far he thinks senators and representatives from Washington and Oregon are on board.

Phil says DC is opposed to his plan to do a year of outreach before they make a decision. He thinks they are just going to do this in accordance with the regs and as quickly as they can.

He thinks it is important we proceed with getting regional support. If we get that, Jeff should be talking with Rowan and the group in DC. Lets go ahead and schedule a short briefing for John, Steve, Jenifer and maybe Laverne if we can. If they support going to Jeff, we then need to call Marcia Coombs and ask for a briefing by Phil. We should ask her to come and we definitely want NPS (and maybe Pamela Bergmann) there.

FYI, one of my main fishing buddles is an ARD at BLM and he says the new RD is a big fly fisherman and just coming up from Idaho where he has seen the devastation of mining. We should think about asking other RDs like BLM and USGS to participate in the briefing. Something to ask Laverne and company.

When do you think we can schedule the first meeting? I will provide the Pebble layout showing road, port and mine as we know it. I also have a map showing 792.6 square miles of mining claims around Pebble.

This is going to happen and its going to get bloody. I am looking forward to it!

Phil Brna
Fish and Wildlife Biologist
Conservation Planning Assistance Branch
US Fish and Wildlife Service, Anchorage Field Office
605 W. 4th Ave, Room G-61
Anchorage, AK 99501
phone: (907) 271-2440

fax: (907) 271-2786 email: phil_brna@fws.gov From:

Frances Mann/R7/FWS/DOI

To:

Frances Mann/R7/FWS/DOI

Cc:

Jenifer Kohout/R7/FWS/DOI; Phil Brna/R7/FWS/DOI; Steve Klosiewski/R7/FWS/DOI

Subject: Re: 404(c)

Date:

Wednesday, October 20, 2010 12:47:01 PM

More thoughts on the time we should schedule for the briefing. I think the bottom line for Phil and me is that we really don't know how much time it might take - so planning for 2 hours seemed safe. We can encourage the EPA to be concise and to the point, and the last time I saw a version of this - it was. It is about a 30 minute presentation, and it did not go into details about mining. It did talk about resource values in the area. Much of the material is not brand new to the particular RDs, so it's possible that we will be done in less than 1 hour.

SO...what we can do is schedule the presentation for 1 hour, and then work with Cathy Pearson to make sure that the room is kept empty for -say - 30 minutes beyond that just in case the discussion goes long. We could also just ask Stephanie (informally) to keep a little buffer time in Geoff's calendar and not schedule something at exactly 1 hour after the meeting. Thus - no one is obligated to stay for over an hour, but they won't have to jump up and run off if questions are still being posed.

Fran

Frances Mann

US Fish & Wildlife Service

Regional Coordinator, Conservation Planning Assistance

1011 E. Tudor Road

Anchorage, AK 99503

907-786-3668

frances_mann@fws.gov

Frances Mann/R7/FWS/DOI

10/19/2010 10:50 AM

Steve Klosiewski/R7/FWS/DOI

cc

To

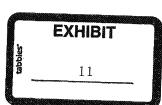
Jenifer Kohout/R7/FWS/DOI@FWS, Phil Brna/R7/FWS/DOI@FWS

Subject

Re: 404(c)Notes Link

Steve and Jenifer -

Phil and I completely agree that what is needed is a concise briefing that allows time for meaningful discussion. However...there are some unknowns here that we are trying to accommodate.



The rationale for a 2-hour time block is that we want to ensure that there is time for adequate discussion without the fear that someone else needs the room, or that one or more of the RDs have to leave because of a scheduling conflict. We are happy to shoot for 1 hour, but here are a few details to consider:

- The briefing will be given by EPA, not the Service. We have already given our briefing to Geoff, he said he was convinced, and directed us to set up the formal briefing with the RDs of the EPA and the NPS (a side note is that he also asked us to set up a second briefing with the Alaska Native delegation that are petitioning EPA to undertake the 404(c)).
- The EPA briefing does not focus on the mine and how bad it is. Rather it focuses on the uniqueness and global importance of the Bristol Bay watershed, particularly the importance of salmon to the economy, the people, etc. It also provides info about other non-salmon resources in the area. The briefing describes the EPA criteria for taking the 404(c) action. Pebble and other mines are mentioned as significant threats to the area, but the presentation does not go into detail about the adverse impacts of mining.
- The briefing would be essentially the same one that has been given to the EPAs Regional Administrator in Seattle, as well as the Deputy Administrator (in Wash DC). According to Phil North, those briefings/discussions took about 1.5 hours. The rationale behind the 2-hour time block is that we don't know what sorts of questions and discussion may need to occur between the 3 RDs (Sue Masica, Marcia Coombs, and Geoff), but it seems better to be safe and allow for more time rather than less. The EPA will be looking for a statement of support from Geoff and Sue as to the merits of the 404(c) action. This is their time to tell a convincing story about why 404(c) action would be appropriate. I think that this is exactly the type of information that Geoff (and the NPS) will need when asked by Rowan, Tom Strickland, the public, and others about "why are you in support of the EPA's action?"

Fran
Frances Mann
US Fish & Wildlife Service
Regional Coordinator, Conservation Planning Assistance
1011 E. Tudor Road
Anchorage, AK 99503
907-786-3668
frances_mann@fws.gov

Steve Klosiewski/R7/FWS/DOI

10/18/2010 04:43 PM

To

Jenifer Kohout/R7/FWS/DOI@FWS, Phil Brna/R7/FWS/DOI@FWS

cc

Frances Mann/R7/FWS/DOI@FWS

Subject

Re: 404(c)Notes Link

We need a short concise briefing that allows time for meaningful discussion. No need to talk about how bad the mine would be because everyone understands this. We need to focus on FWS role and authorities and what EPA wants from us. We should know this before the meeting and discuss beforehand.

Steve K Steve Klosiewski

Deputy Assistant Regional Director, Fisheries and Ecological Services

US Fish and Wildlife Service

1011 E Tudor Rd

Anchorage, AK 99507

907 786-3523

---- Original Message ---
From: Jenifer Kohout

Sent: 10/18/2010 01:38 PM MDT

To: Phil Brna; Steve Klosiewski

Cc: Frances Mann

Subject: Re: 404(c)

I had a similar response to Steve. Seems like it would be better to have a tight 1 hour briefing. I don't envision that the RDs will need a ton of details.

---- Original Message ---
From: Phil Brna

Sent: 10/18/2010 10:26 AM YDT

To: Steve Klosiewski

Cc: LaVerne Smith; Jenifer Kohout; Frances Mann
Subject: Re: 404(c)

I spoke with Phil North at EPA and he suggested 1.5 to 2 hours depending on how many questions and how much discussion there might be.

Phil Brna

Fish and Wildlife Biologist

Conservation Planning Assistance Branch

US Fish and Wildlife Service, Anchorage Field Office

605 W. 4th Ave, Room G-61

Anchorage, AK 99501

phone: (907) 271-2440

fax: (907) 271-2786

email: phil_brna@fws.gov

Steve Klosiewski/R7/FWS/DOI

10/18/2010 10:08 AM

	То
LaVerne Smith/R7/FWS/DOI@FWS, "Phil Brna" < Phil_Brna@fws.gov>	
	cc
	Subject
Re: 404(c)Notes Link	
2hrs is a big block of time. Did EPA request 2hrs?	
Steve K	
Steve Klosiewski	
Deputy Assistant Regional Director, Fisheries and Ecological Services	
US Fish and Wildlife Service	
1011 E Tudor Rd	
Anchorage, AK 99507	
907 786-3523	
Original Message	
From: LaVerne Smith	
Sent: 10/16/2010 11:12 AM MDT	
To: Steve Klosiewski	
Subject: Fw: 404(c)	
E. LaVerne Smith	
Deputy Regional Director	
Alaska Region	
U.S. Fish and Wildlife Service	
1011 E. Tudor Road	
Anchorage, Alaska. 99503	
907-786-3493	
Original Message	
From: Phil Brna	

Sent: 10/15/2010 01:38 PM YDT

To: Frances Mann; Jenifer Kohout

Cc: LaVerne Smith; Stephanie McFadden

Subject: Fw: 404(c)

Here is a bit more information (see the forwarded attachments) regarding tribes and businesses from Bristol Bay who petitioned EPA for a 404(c) action. I am copying Laverne as well in case she is interested. I was not aware of these until now but they are all relatively recent. Note that the Tiffanny Company letter went to the President with a copy to the Secretary and Director. Since this is recent, the "issue" may be working its way down through the system.

I called Stephanie to try to reserve a 2 hour block either the week of Dec 6 or 13. I think Geoff and Laverne are really the only ones who need to be present but if others can make it that would be good. EPA is tentatively OK with those weeks. As soon as I get a date I will confirm with EPA and NPS. When I speak with Stephanie I'll try to find 1-2 hours in the next few weeks that Geoff and Laverne have open to meet with tribal representatives. I am copying Stephanie as well.

Phil Brna

Fish and Wildlife Biologist

Conservation Planning Assistance Branch

US Fish and Wildlife Service, Anchorage Field Office

605 W. 4th Ave, Room G-61

Anchorage, AK 99501

phone: (907) 271-2440

fax: (907) 271-2786

email: phil_brna@fws.gov

---- Forwarded by Phil Brna/R7/FWS/DOI on 10/15/2010 01:15 PM -----

"Shoren Brown" <SBrown@tu.org>

10/15/2010 12:43 PM

To

<Phil_Brna@fws.gov>

cc

Subject

RE: 404(c)

Peter Van Tuyn is working for BBNC on this. I'll put a solid group together for you and let you know Monday. I'm also attaching all the resolutions and letters that have been sent to EPA so far - I assume Phil shared these but just in case.

From: Phil_Brna@fws.gov [mailto:Phil_Brna@fws.gov]

Sent: Friday, October 15, 2010 1:29 PM

To: Shoren Brown Subject: RE: 404(c) ok. It does not have to be a big group. I think we will stand up and support EPA and he just wants to hear from some of the local people who are asking for this. He also will let the Director in DC know about this. Who is the lawyer? Phil Brna Fish and Wildlife Biologist Conservation Planning Assistance Branch US Fish and Wildlife Service, Anchorage Field Office 605 W. 4th Ave, Room G-61 Anchorage, AK 99501 phone: (907) 271-2440 fax: (907) 271-2786 email: phil_brna@fws.gov " height="16">"Shoren Brown" <SBrown@tu.org> "Shoren Brown" <SBrown@tu.org> 10/15/2010 11:59 AM <Phil_Brna@fws.gov>

То

СС

Subject

RE: 404(c)

It really depends on who is available. Off the top of my head I'm thinking a few tribal leaders and a delegation from BBNC including their lawyer who is very talented and gets the details on 404c. Before I start speaking for folks let me put some feelers out and check on availability. Sound good?

From: Phil_Brna@fws.gov [mailto:Phil_Brna@fws.gov]

Sent: Friday, October 15, 2010 12:36 PM To: Shoren Brown Subject: RE: 404(c) Shoren, I am getting some dates for you. Can you give me some names and who they are with? Phil Brna Fish and Wildlife Biologist Conservation Planning Assistance Branch US Fish and Wildlife Service, Anchorage Field Office 605 W. 4th Ave, Room G-61 Anchorage, AK 99501 phone: (907) 271-2440 fax: (907) 271-2786 email: phil_brna@fws.gov " height="16">"Shoren Brown" <SBrown@tu.org> "Shoren Brown" <SBrown@tu.org> 10/15/2010 11:25 ΑM To <Phil_Brna@fws.gov> cc <north.phil@epa.gov>, <ttroll@tnc.org> Subject RE: 404(c) Phil -No problem at all. I'll put the word out to tribal leaders and BBNC. Is there a week that I

should shoot for specifically? I only ask because it will likely require that people fly from Bristol Bay to Anchorage.

Tim - I'll shoot you a line on this today.

Best -

SB

From: Phil_Brna@fws.gov [mailto:Phil_Brna@fws.gov]

Sent: Friday, October 15, 2010 11:42 AM

To: Shoren Brown

Cc: north.phil@epa.gov; ttroll@tnc.org

Subject: 404(c)

I briefed Geoff Haskett, the USFWS Alaska Regional Director yesterday about the potential 404(c) action in Bristol Bay. Geoff would like to meet with the Alaska Native delegation who are asking EPA to pursue this. Can you help me set that up?

Phil Brna

Fish and Wildlife Biologist

Conservation Planning Assistance Branch

US Fish and Wildlife Service, Anchorage Field Office

605 W. 4th Ave, Room G-61

Anchorage, AK 99501

phone: (907) 271-2440

fax: (907) 271-2786

email: phil_brna@fws.gov

[attachment "AIFMA Letter to EPA.pdf" deleted by Steve Klosiewski/R7/FWS/DOI]

[attachment "BBNA 404c.pdf" deleted by Steve Klosiewski/R7/FWS/DOI]

[attachment "BBNC EPA 404c 081210 FINAL signed.pdf" deleted by Steve Klosiewski/R7/FWS/DOI]

[attachment "BBRSDA Signed Letter EPA 062010,pdf" deleted by Steve Klosiewski/R7/FWS/DOI]

[attachment "Six Tribes' Joint Letter to EPA requesting 404(c) process.pdf" deleted by Steve Klosiewski/R7/FWS/DOI]

 $[attachment \ "Tiffany.Pebble.letter.pdf" \ deleted \ by \ Steve \ Klosiewski/R7/FWS/DOI]$

From:

Ann Rappoport

To:

Frances Mann

Cc:

Phil Brna

Subject:

02/24/2011 05:16 PM

Date: Attachments:

pebble briefing 1 Oct 2010 rev.docx

Fw: possible meeting next week on Pebble mine?

so are you going to copy Steve/Jenifer/LaVerne/Geoff with our Briefing paper, or should I? after we all look at it and see if it's adequate.

Here's latest background from Phil's T drive on Pebble:



first pg. Perhaps we do the one page summary with numbers as an up front item then attach this longer piece? We could talk early Friday a.m., I have to leave 10:15 am for meeting in Wasilla.

Ann

Ann Rappoport, Field Supervisor Anchorage Fish and Wildlife Field Office 605 W. 4th, Room G-61 Anchorage, AK 99501 $(907)27\overline{1}-2787$ (907)271-2786 FAX

----- Forwarded by Ann Rappoport/R7/FWS/DOI on 02/24/2011 05:12 PM -----

Bright/ARL/R9/FWS/DOI

To Frances Mann/R7/FWS/DOI@FWS

Ann Rappoport/R7/FWS/DOI@FWS, Jason Miller/ARL/R9/FWS/DOI@FWS, Phil Brna/R7/FWS/DOI@FWS

02/24/2011 05:04 PM

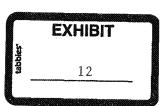
Subject Re: Fw: possible meeting next week on Pebble

mine?

do you guys have a briefing paper with the basic numbers (size of mine, miles of stream, species present)? LB

Larry K. Bright Chief, Branch of Conservation Planning Assistance US Fish & Wildlife Service 4401 N. Fairfax Drive, Room 840 Arlington, VA 22203 Ph. 703-358-2440; Cell: 703-447-8322 Fax 703-358-1869 larry bright@fws.gov

▼ Frances Mann/R7/FWS/DOI



Frances Mann/R7/FWS/DOI

To Jason Miller/ARL/R9/FWS/DOI@FWS

Larry Bright/ARL/R9/FWS/DOI@FWS, Phil

Brna/R7/FWS/DOI@FWS, Ann Rappoport/R7/FWS/DOI@FWS

02/24/2011 03:47 PM

Re: Fw: possible meeting next week on Pebble mine? Subject

wow! Great news! What do you need from us?

Frances Mann US Fish & Wildlife Service Regional Coordinator, Conservation Planning Assistance 1011 E. Tudor Road Anchorage, AK 99503 907-786-3668 frances_mann@fws.gov ▼ Jason Miller/ARL/R9/FWS/DOI

Miller/ARL/R9/FWS/DOI

To Frances Mann/R7/FWS/DOI@FWS

cc Larry Bright/ARL/R9/FWS/DOI@FWS

02/24/2011 09:14 AM

Subject Fw: possible meeting next week on Pebble mine?

Fran, **FYI**

---- Forwarded by Jason Miller/ARL/R9/FWS/DOI on 02/24/2011 01:13 PM ----

Dave Stout/ARL/R9/FWS/DOI

02/24/2011 09:19 AM

To Bryan Arroyo/ARL/R9/FWS/DOI@FWS

Jeff Underwood/ARL/R9/FWS/DOI@FWS, "Steve Moyer" <SMoyer@tu.org>, Larry Bright/ARL/R9/FWS/DOI, jason_miller@fws.gov

Subject

Re: possible meeting next week on Pebble mine?

Hi Steve

Any time on Wednesday works for me.

Thanks!

Dave

David J Stout Chief, Division of Habitat and Resource Conservation Fisheries and Habitat Conservation US Fish and Wildlife Service

703-358-2555 cell <u>Ex. 6 Pil</u> fax 703-358-1869

4401 N. Fairfax Drive Room 830A Arlington, VA 22203

dave_stout@fws.gov

http://www.fws.gov/habitatconservation/

Bryan Arroyo/ARL/R9/FWS/DOI

 $\label{to:conditional} To \ \ \mbox{"Steve Moyer"} < \mbox{SMoyer@tu.org>, Jeff Underwood/ARL/R9/FWS/DOI@FWS,} \\$

Dave Stout/ARL/R9/FWS/DOI@FWS

02/24/2011 06:26 AM

CC

Subject Re: possible meeting next week on Pebble mine? \underline{Link}

Good morning Steve:

Folks are trying to match schedules and see how many of us can accomodate your request. Hope all is well with you.

Take care, Bryan

From: "Steve Moyer" [SMoyer@tu.org]

Sent: 02/23/2011 04:33 PM EST

To: Bryan Arroyo; Jeff Underwood; Dave Stout **Subject:** possible meeting next week on Pebble mine?

Gents: Shoren Brown, our staffer in charge of our work to protect Bristol Bay, AK is in town next week with a group from Alaskans to talk about the use of the CWA Section 404c to protect the watershed from the mine proposal. We would like to talk to you about this matter. Would you have 30 minutes?

2:30, Tuesday the 1st would be great. 9-12 on Wednesday, and 3:30-5 Wednesday would also be good. We'll come to your place. Please let me know. Also, if I am asking the wrong people, please straighten me out and and I'll contact the right ones.

Many thanks, Steve

EPA to Seek Service Support When They Use Section 404(c) of the Clean Water Act

PURPOSE OF AFWFO/RO OCTOBER 1, 2010 DISCUSSION

To inform Regional Office management about the status of the Environmental Protection Agency's (EPA) involvement in the potential Pebble Mine development and EPA's anticipated request for support from Region 7 of the U.S. Fish and Wildlife Service (Service).

SUMMARY OF LIKELY ACTION

The U.S. Environmental Protection Agency (EPA) is seeking Service support as they initiate a formal process to issue a determination that the waters of the U.S., including wetlands, within the potential Pebble Mine action area are unsuitable for the placement of fill material. This action would be conducted under the authority of Section 404(c) of the Clean Water Act (CWA), and would effectively prevent the project from receiving the necessary federal permits to develop a mine in the Nushagak and Kvichak watersheds. The CWA authorizes the U.S. Army Corps of Engineers (Corps) or an approved state to issue permits for discharges of dredged or fill material at specified sites in waters of the United States. Section 404(c), however, authorizes EPA to restrict, prohibit, deny, or withdraw the use of an area as a disposal site for dredged or fill material if the discharge will have unacceptable adverse effects on municipal water supplies, shellfish beds and fishery areas, wildlife, or recreational areas.

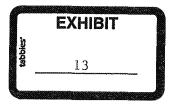
As of last week, it is our understanding that EPA has tentatively decided to initiate the 404(c) process but they have not yet determined when this will occur. It is likely a final decision will be made after the November election. EPA Alaska staff have briefed all the way up to just below the EPA Administrator. Trout Unlimited and Alaskans from the Bristol Bay area have been visiting lawmakers in Washington D.C. (see Anchorage Daily News article dated 9/24/10). Originally EPA was contemplating a 404(c) action for the area associated with Pebble, but they are now considering a much larger area in southwest Alaska.

BACKGROUND ON 404(C)

Under Section 404 (c), EPA may exercise a veto over Corps' or a state's authorization of a site for the discharge of dredged or fill material. Under Section 404(c), EPA may also prohibit or otherwise restrict the specification of a site to be filled before a permit application has been submitted to, or approved by, the Corps or a state. In effect, Section 404(c) authority may be exercised before a permit is applied for, while an application is pending, or after a permit has been issued. Because Section 404(c) actions have mostly been taken in response to unresolved Corps permit applications, this type of action is frequently referred to as an EPA veto of a Corps permit.

An EPA Regional Administrator initiates a 404(c) action if he or she determines that the impact of a proposed permit activity is likely to result in:

- significant degradation of municipal water supplies (including surface or ground water),
- significant loss of or damage to fisheries, shellfisheries, wildlife habitat, or recreation areas.



EPA has used its Section 404(c) authority very sparingly, issuing only 12 final veto actions since 1972 (see attachment 1 for a list of actions). A recently concluded action was Yazoo Pumps, an action that was strongly supported by the Service. Currently, there are two mines (Spruce No. 1 mine in West Virginia, and Big Branch Mine in Kentucky) which are in the preliminary phases of 404(c) determinations.

WHAT COULD FWS INVOLVEMENT LOOK LIKE?

The success of a 404 (c) determination is dependent upon the support of stakeholder groups, but a critical piece is support from the other Federal agencies that have a recognized role in the Corps regulatory process.

The EPA would take the lead by issuing a "Notice of Proposed Determination" to withdraw, prohibit, deny, or restrict use of a defined area for the placement of fill material for the Pebble Mine project. The EPA notifies the project proponent and the Corps of their intent to make a 404(c) determination, and then issues a public notice in the federal register to seek input. A public hearing is usually held. Information obtained during the public notice and the public hearing processes is then used by the EPA Assistant Administrator to make a decision to affirm, modify, or rescind the recommended determination.

Through our authorities¹, the Service in R7 could support this action by:

- providing information to the EPA Regional Administrator prior to the "Notice of Proposed Determination" to assist them as they decide whether to go forward or not. Such information would include assessments, based upon the best available data and science, about the amount of habitat to be lost; potential adverse effects on habitat and species including listed species and encompassing direct, indirect, and cumulative adverse impacts; effects of contaminants on fish and wildlife species and water quality; information on the known and documented effects of mining on water quality,
- providing formal input during the public notice and public hearing processes;
- ensure that the Service's leaders in WO are aware and supportive of this action.

WHY PEBBLE MINE?

The EPA's reasons for potentially making a 404(c) determination at the Pebble mine site are primarily related to salmon. The Service shares those concerns. Additionally, significant adverse impacts to other species, such as marine mammals, migratory birds, listed species, and their habitats, are inevitable from a development on the scale of that described for the Pebble mine. However, salmon are the heart of Bristol Bay, and much of the areas' importance relates to salmon: subsistence, commercial fishing, sport fishing, the aquatic and terrestrial ecosystem and the ecosystem of the North Pacific.

- The mine is located on a divide between the Nushagak and Kvichak River watersheds these two watersheds produce one in eight Alaska salmon.
- Bristol Bay currently produces more salmon than any other watershed on earth, and the Nushagak and Kvichak have the lion's share of salmon runs in Bristol Bay (69%).

What's different about Pebble Mine?

- The area supports the volumes, grades, and metallurgy to support a long-life, high volume open-pit and underground mine.
- The Pebble property captures the world's most extensive mineral system. The Pebble deposit is only one of many in the area, and there is concern about cumulative impacts from multiple mines in the area.
- Mining claims in the Pebble area capture the world's most extensive mineral system (58,000 acres for Pebble), a total of 724 square miles.
- Several projects in one: port, roads, pipeline, tailings impoundments, power, shipping.
- Could be world's sixth largest copper mine; world's largest gold mine.
- Current estimate is 10 billion cubic yards of tailings will be left as waste.
- Latest scenario from Pebble web site superimposed on Anchorage for scale.

What are the potential avenues of adverse effects on fish and wildlife resources?

- Direct habitat loss and degradation.
- Hydrological alterations dewatering, changes in watershed quality/quantity, recharge over much larger area than mine alone, use of large quantities of water for processing/human use
- Contaminants soils porous in the areas; complex interaction of groundwater/surface:
 - 1. Many metals potentially toxic to fish and wildlife would be exposed in the deposit.
 - 2. Elevated potential for Acid Mine Drainage over a vast area.
- Need for perpetual storage of potentially toxic waste (8.2 billion tons).
- Need to treat water in perpetuity.

Information from literature –

• Historically, mines that are both near groundwater or surface water resources, and possess an elevated potential for acid drainage and contaminants leaching, will result in exceedances of water quality standards.

RECOMMENDATIONS FROM AFWFO

- Invite Phil North, EPA lead for Pebble to brief RD Geoff Haskett and NPS RD Sue Masica.
- Fully support EPA in this endeavor by allowing EPA to publicly indicate our support for their proposed determination.
- Provide biological information, technical assistance and recommendations when appropriate
- Brief the WO/CPA staff and AD Brian Arroyo. They may have already been contacted by Trout Unlimited Washington staff.

Field
Field
Field
Field
Field
Field
Field
Field

Field

The U.S. Congress established the USFWS by way of recognizing the national importance of maintaining healthy fish and wildlife populations (CFR 416 742a). Congress further outlined USFWS' conservation responsibilities through the enactment of federal legislation, e.g., Endangered Species Act, the Marine Mammal Protection Act, and the Migratory Bird Treaty Act, Additionally the Anadromous Fish Conservation Act, the Clean Water Act, the Fish and Wildlife Conservation Act, the National Environmental Policy Act, and the Federal Power Act confer broad authority to the Service; providing particular or shared responsibility over the Nation's wildlife species.

From:

Larry Bright

To:

Phil Brna

Cc:

Ann Rappoport; Frances Mann; Michael Buntier

Subject: Date: Re: Pebble Mine 03/09/2011 01:36 PM

Phil/Ann - I wouldn't mention the Secretary's office at this point to anyone. If that particular move worked, it would need to be something that originated with EPA and then trickled down to Dan via the Sec's Office. Now, if Geoff gets religion and wants to brief all the way up the chain of command, that would be different. LB

Larry K. Bright
Chief, Branch of Conservation Planning Assistance
US Fish & Wildlife Service
4401 N. Fairfax Drive, Room 840
Arlington, VA 22203
Ph. 703-358-2440; Cell: Ex. 6 PII
Fax 703-358-1869
larry_bright@fws.gov

▼ Phil Brna/R7/FWS/DOI

Phil Brna/R7/FWS/DOI

To Ann Rappoport/R7/FWS/DOI@FWS

cc Frances Mann/R7/FWS/DOI@FWS, Larry Bright/ARL/R9/FWS/DOI@FWS, Michael Buntjer/R7/FWS/DOI@FWS

03/09/2011 05:25 PM

Subject n

Re: Pebble Mine

Ann, if there is a need for the secretary's office to be involved should we be talking to Pamela?

Phil Brna
Fish and Wildlife Biologist
Conservation Planning Assistance Branch
US Fish and Wildlife Service, Anchorage Field Office
605 W. 4th Ave, Room G-61
Anchorage, AK 99501
phone: (907) 271-2440
fax: (907) 271-2786

email: phil_brna@fws.gov

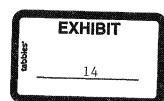
* Ann Rappoport/R7/FWS/DOI

Ann Rappoport/R7/FWS/DOI

To Larry Bright/ARL/R9/FWS/DOI@FWS

cc Frances Mann/R7/FWS/DOI@FWS, Michael Buntjer/R7/FWS/DOI@FWS, Phil Brna/R7/FWS/DOI@FWS

03/09/2011 01:22 PM



Subject Re: Pebble Mine

excellent! thanks Larry.

Phil and Mike updated me on their call with you earlier today, so I don't think we need to call you on MOnday (Phil, Mike, Fran and I can do some strategizing then). Anything you can do to get Sec involved and pushing FWS to be active on this would be great. We'll keep you posted.

Ann

Ann Rappoport, Field Supervisor Anchorage Fish and Wildlife Field Office 605 W. 4th, Room G-61 Anchorage, AK 99501 (907)271-2787 (907)271-2786 FAX ▼ Larry Bright/ARL/R9/FWS/DOI

> Larry Bright/ARL/R9/FWS/DOI

To Ann Rappoport/R7/FWS/DOI@FWS

03/09/2011 01:01 PM

cc Frances Mann/R7/FWS/DOI@FWS, Michael Buntjer/R7/FWS/DOI@FWS, Phil Brna/R7/FWS/DOI@FWS

Subject Re: Pebble Mine

Unfortunately, TU didn't do a lot of pre-planning for this trip, or at least I'm not aware of it, so I heard about it via Bryan Arroyo (who couldn't attend), and he asked Dave Stout and I to attend. So, Dave, Jason Miller, Robin Nims-Elliot and me. I only had a couple of days notice. Dave and I committed to making some phone calls to our counterparts in EPA to see if we could get some exchange between EPA and DOI on Pebble, which I suspect there already has been, but I'd like to see the Secretary's office more involved. We'll see if we can make that happen. LB

Larry K. Bright
Chief, Branch of Conservation Planning Assistance
US Fish & Wildlife Service
4401 N. Fairfax Drive, Room 840
Arlington, VA 22203
Ph. 703-358-2440; Cell: Ex. 6 PII
Fax 703-358-1869
larry_bright@fws.gov

Ann Rappoport/R7/FWS/DOI

Ann Rappoport/R7/FWS/DOI

To Larry Bright/ARL/R9/FWS/DOI@FWS

03/09/2011 12:20 PM

cc Frances Mann/R7/FWS/DOI@FWS, Phil Brna/R7/FWS/DOI@FWS, Michael Buntjer/R7/FWS/DOI@FWS

Subject

Re: Pebble Mine

Hi Larry -

thanks for info below which is GREAT! How long was their slide show? sounds like it would be good for Geoff and LaVerne to see it, from their perspective; they've seen the EPA perspective and heard from us.

Then (and now this is especially for R7 folks) what I think we need to discuss in briefing paper we provide Geoff before the briefing, is how we have been engaged on Pebble mine to date and the many proactive activities we've pursued to educate ourselves and the other agencies and that have allowed us to provide substantive input on this project to date (e.g., mining courses (last fall and year before), contract with RRP for lit searches/background info, upcoming Salmon Symposium, etc.

Fran is out this week and she will need to help us prepare RO for this, so can we teleconf with you on Monday 3/14? What about 8:30 a.m. our time, 12:30 pm your time? that time works for Phil, Mike and me (I need to confirm with Fran). Say, was Rowan at the meeting in DC with Rick Halford, etc? who all from FWS side was there?

Ann

Ann Rappoport, Field Supervisor
Anchorage Fish and Wildlife Field Office
605 W. 4th, Room G-61
Anchorage, AK 99501
(907)271-2787
(907)271-2786 FAX
▼ Larry Bright/ARL/R9/FWS/DOI

Larry Bright/ARL/R9/FWS/DOI

To Ann Rappoport/R7/FWS/DOI@FWS

Frances Mann/R7/FWS/DOI@FWS, Phil Brna/R7/FWS/DOI@FWS

03/09/2011 06:18 AM

Subject

Pebble Mine

Ann - I'd be more than glad to talk to you and your staff about this. Rick Halford provided an excellent slide show on the scale of this project and the scope of the

likely impacts. As Rick said, and you guys know how accurate he is on this point, "he's finally met a mine that he doesn't like." It's simple. He's asking the Service to get engaged. He's asking the Service to provide technical support to the EPA, largely in terms of staff support, but in whatever real form it can take. That's pretty much it. He and the other members of this group left a very positive impression on folks here. But we told them that what truly counts is the action taken in the Region. Is this a priority for the Region? Is it considered a significant threat to fish and wildlife? That's the question Geoff needs to answer, not only for Rick, et. al., but he needs to answer that question for himself and for his staff. This is not about authority or jurisdiction. We have all the authority we need to be involved (Clean Water Act and FWCA for only two). This is about priorities, about potential impacts. I'm getting too deep into this aren't I?? Give me a call Ann and we can talk strategy. Larry

Larry K. Bright
Chief, Branch of Conservation Planning Assistance
US Fish & Wildlife Service
4401 N. Fairfax Drive, Room 840
Arlington, VA 22203
Ph. 703-358-2440; Cell: 703-447-8322
Fax 703-358-1869
larry_bright@fws.gov

▼ Ann Rappoport/R7/FWS/DOI

Ann Rappoport/R7/FWS/DOI

03/09/2011 03:59 AM

- To Phil Brna/R7/FWS/DOI@FWS, Michael Buntjer/R7/FWS/DOI@FWS, Frances Mann/R7/FWS/DOI@FWS, Larry Bright/ARL/R9/FWS/DOI@FWS
- cc Steve Klosiewski/R7/FWS/DOI@FWS, Jenifer Kohout/R7/FWS/DOI@FWS, Lisa Toussaint/R7/FWS/DOI@FWS

Subject Fw: Possible Meeting with the RD

fyi on info below which I left in voice mail for Phil and Mike earlier today.

Larry - we'll be calling you to learn more details about the info exchanged when you met with the folks below, so we can let Geoff know about that. Then I'll call Bob Waldrop to find out more about their message for Geoff.

Ann

Ann Rappoport, Field Supervisor
Anchorage Fish and Wildlife Field Office
605 W. 4th, Room G-61
Anchorage, AK 99501
(907)271-2787
(907)271-2786 FAX
----- Forwarded by Ann Rappoport/R7/FWS/DOI on 03/08/2011 09:26 PM -----

Catherine Pearson/R7/FWS/DOI

To Stephanie McFadden/R7/FWS/DOI@FWS

cc Ann Rappoport/R7/FWS/DOI@FWS

03/08/2011 05:40 PM

Subject Fw: Possible Meeting with the RD

I talked with Ann today and she said we definitely want Geoff to meet with these gentlemen as they were just in DC meeting with our folks on this issue. Ann will be the point of contact, Mr. Waldrop will speak with her directly to make arrangements and Ann will provide a briefing for Geoff prior to the meeting.

I have tentatively scheduled the meeting for Mar. 21st at 10:00am in the Mary Smith. I'm going to step out and leave it up to Ann to coordinate with you. Thanks.

Cathy x3309

---- Forwarded by Catherine Pearson/R7/FWS/DOI on 03/08/2011 04:13 PM -----

Catherine Pearson/R7/FWS/DOI

To Ann Rappoport/R7/FWS/DOI

cc Stephanie McFadden/R7/FWS/DOI@FWS

03/08/2011 10:40 AM

Subject Possible Meeting with the RD

Hi Ann -

Geoff asked me to get a hold of you regarding a possible meeting with Bob Waldrop of the Bristol Bay Regional Seafood Development Assoc. here in Anchorage. Bob may be reached at Ex. 6 PII or via e-mail at Ex. 6 PII, Bob Waldrop

Bob called yesterday asking to schedule a meeting with Geoff. The meeting would be with Bob and Rick Halford from Trout Unlimited. They would like to meet to discuss the EPA watershed assessment in Bristol Bay, and large scale development in the area.

I asked Steve K about this and he thought you might be the best person to give Bob a call and see what they're looking for. If a meeting is still needed, I have tentatively scheduled time with Geoff on March 21st at 10:00am in his office. Of course, it's all tentative at this point.

Cathy 786-3309

EPA-2196

Bob Sussman/DC/USEPA/US

To Wayne Nastri

09/08/2010 08:10 AM

cc Dennis McLerran, Georgia Bednar

hcc

Subject Re: Meeting Request Regarding Proposed Pebble Mine near Bristol Bay, AK

Hi Wayne. Of course I remember you from your RA days. We would be happy to meet with the coalition. I'd like to line up representatives of OW and OGC to join the meeting and to have R10 participation by phone. Georgia can work on scheduling.

Robert M. Sussman Senior Policy Counsel to the Administrator Office of the Administrator **US Environmental Protection Agency**

Wayne Nastri

Hi Bob, My name is Wayne Nastri and I was the...

09/08/2010 01:38:25 AM

From:

Wayne Nastri <wayne.nastri@dutkoworldwide.com>

To:

Bob Sussman/DC/USEPA/US@EPA

Co:

Georgia Bednar/DC/USEPA/US@EPA, Dennis McLerran/R10/USEPA/US@EPA

Date:

09/08/2010 01:38 AM

Subject:

Meeting Request Regarding Proposed Pebble Mine near Bristol Bay, AK

Hi Bob,

My name is Wayne Nastri and I was the former USEPA Regional Administrator for Region 9. I am working with a broad-based coalition that is seeking a pre-emptive CWA 404(c) action with regard to the proposed Pebble Mine near Bristol Bay, AK. Some members of the coalition have met with Administrator Jackson during her earlier trip to Alaska and many have met with Dennis McLerran and discussed their desire for the 404(c) action. Several members of the coalition will be in Washington DC September 21-23 and would like to meet with you and talk about their views on this requested action. I have explained to them the challenges they face (with regard to a pre-emptive action) and that you would not be able to make any promises and that you need to be concerned with the appearance of any pre-decisional action. The meeting should be a friendly and cordial opportunity for them to meet you and share their views and to perhaps hear your thoughts on potential concerns of the Agency. I'm hoping that you will be in town during their visit and able to spend some time with them (I would think 30-45 minutes). We will obviously accommodate your schedule so please let me know if you can find the time in your schedule and if so, what works best for you. Specific members of the coalition that would participate in the meeting are:

- * The Honorable Bryce Edgmond, Alaska State Representative from the Bristol Bay Region
- * The Honorable Rick Halford, Former President of Alaska Senate
- * Tom Tilden, Curyung Tribal Council Chief
- * Lindsey Bloom, Board Member of Alaska Independent Fishermen's Marketing Association and United Fishermen of Alaska
- * Bob Waldrop, Executive Director of Bristol Bay Regional Seafood Development Association
- * Shoren Brown, Director of Federal Salmon Policy, Trout Unlimited

There is also a strong likelihood that someone from the Bristol Bay Native Corporation will also be attending (either a Board Member, the Executive Director or Chair). Howard Berman, Sr. Vice President, Dutko Worldwide, and/or myself will also be attending.

The coalition will also be meeting with Congressional members during their visit as well as with other branches of government (requests have also been made with CEQ, USACE, NOAA and NMFS). I've

attached some information that may be useful in advance of the meeting and I am happy to answer any questions you may have. Please feel free to reach me at $\underbrace{\quad \quad \quad \quad \quad \quad }_{\text{Ex.6 Pll}}$ if you have any questions. I will contact your office and hopefully confirm when you might be available. I appreciate your efforts and look forward to meeting with you. Respectfully,

Wayne

Wayne Nastri
Senior Vice President
Dutko Worldwide
Direct: 949-463.2227
wayne.nastri@dutkoworldwide.com
www.dutkoworldwide.com
[attachment "TUMeetingRequestEPA09032010.pdf" deleted by Bob Sussman/DC/USEPA/US]

EPA-7609-0014888 00065

Susan Flensburg <sflensburg@bbna.com> 07/27/2010 04:29 PM

To Tami Fordham, "dorothy@curyungtribe.com", 'Executive Director', Richard King, Jody Seitz

cc Raiph Andersen

bcc

Subject 2nd Update to Attendee List and 2:45 pm session

1 attachment



Headcount(1) with Kim known additions 7-27-2010.xls

Updated Attendee List

Manokotak confirmed this afternoon ~ Leona Black (council member), Jeweline Ayojiak (staff) Dlg City - Tim Sands (council member) & Jody Seitz (planner) will be the only two city reps

2:45-3:45 pm session

Not sure who all presenting but shaping up as following:

- Nunamta, Kim Williams
- BBNA, Sue Flensburg
- City of Dillingham, Jody Seitz
- Trout Unlimited, Tim Bristol
- Bristol Bay Campus, Todd Radenbaugh
- BB RSDA, Bob Waldrop
- BBNC, Jason?
- Bristol Bay Working Group?, Rick Halford?

Potluck

Jody S - salad

Tim S - salmon dish

Susan Flensburg, Environmental Program Manager Bristol Bay Native Association PO Box 310 Dillingham, Alaska 995576 Ph: 907-842-6241 or 1-800-478-5257 ext 341 (in-state) Fax: 907-842-5862

Email: sflensburg@bbna.com

Email: sflensburg

From: Susan Flensburg

EXHIBIT

{00466086}

Sent: Tuesday, July 27, 2010 12:16 PM

To: 'Executive Director'
Cc: 'dorothy@curyungtribe.com'
Subject: RE: Attendee Spreadsheet

Kim -

Is Rick Halford attending/presenting at 2:45 – 3:45 pm session? If yes, should we list him as Bristol Bay Working Group? Would he also be attending potluck?

Sue

Susan Flensburg, Environmental Program Manager Bristol Bay Native Association PO Box 310 Dillingham, Alaska 995576 Ph: 907-842-6241 or 1-800-478-5257 ext 341 (in-state) Fax: 907-842-5862

Email: sflensburg@bbna.com Email: sflensburg

From: Executive Director [mailto:nunamtaexdir Sent: Tuesday, July 27, 2010 8:12 AM

To: Susan Flensburg

Cc: Fordham.Tami@epamail.epa.gov; dorothy@curyungtribe.com; Richard King; Jody Seitz

Subject: Re: Attendee Spreadsheet

Sue

I've added the ones that I know will attend.

Kim

On Tue, Jul 27, 2010 at 3:26 AM, Susan Flensburg <sflensburg@bbna.com> wrote: Evolving spreadsheet with attendees and for purposes of potluck (assumes that all coming in from out-of-town attending). Changes (additions, deletions, etc.) should be incorporated to the extent possible.

Susan Flensburg, Environmental Program Manager Bristol Bay Native Association PO Box 310 Dillingham, Alaska 995576 Ph: 907-842-6241 or 1-800-478-5257 ext 341 (in-state)

Fax: 907-842-5862

Email: sflensbura@bbna.com

Email: sflensbur

EPA-1951

Palmer Hough/DC/USEPA/US

11/23/2011 08:38 PM

To Barbara Butler, Bill Dunbar, Cara Steiner-Riley, Christopher Hunter, Dave Athons, David Allnutt, Glenn Suter, Hanady Kader, Heather Dean, Heidi Karp, Jeff Frithsen, Jenny Thomas, Jim Wigington, Judy Smith, Julia McCarthy, Kate Schofield, Marianne Holsman, Mary Thiesing, Michael Szerlog, Palmer Hough, Patricia McGrath, Phil North, Rachel Fertik, Richard Parkin, Sheila Eckman, Tami Fordham

CC

bcc

Subject Advance copy of TU/WSC bristol bay report for your review

BB Team:

Trout Unlimited and the Wild Salmon Center have prepared a report entitled: Bristol Bay's Wild Salmon Ecosystem and the Pebble Mine: Key Considerations for a Large-scale Mine Proposal.

They will be formally releasing this report in the coming weeks but have shared the attached advance embargoed copy of the report with EPA.

Thanks, Palmer



PMReport_Embargoed.pdf

Palmer Hough, Environmental Scientist tel: 202.566.1374 I fax: 202.566.1375

Wetlands Division U.S. EPA Headquarters (MC 4502T) 1200 Pennsylvania Avenue, NW Washington, DC 20460 www.epa.gov/wetlands

EPA-2779

Palmer Hough/DC/USEPA/US

02/08/2012 03:50 PM

To Denise Keehner, evans.david, Jim Pendergast, Heidi Nalven, Gautam Srinivasan

cc fertik.rachel

bcc

Subject TU/Wild Salmon Center Release Bristol Bay Report

FYI, on 2/7, Trout Unlimited and the Wild Salmon Center released their report on the risks that the Pebble mine poses to Bristol Bay. EPA was provided with an embargoed copy of this report in December and TU hosted a Q&A with our team last month on the report.

-Palmer

http://www.savebristolbay.org/blog/national-scientific-report-outlines-pebbles-risks-to-bristol-bay-february-7-2012

National scientific report outlines Pebble's risks to Bristol Bay February 7, 2012

A new national, scientific report concludes that the proposed Pebble Mine would eliminate critical salmon habitat and is too risky to develop.

"Bristol Bay's Wild Salmon Ecosystems and the Pebble Mine: Key Considerations for a Large-Scale Mine Proposal," examines the potential impacts of the proposed Pebble Mine on Bristol Bay's wild salmon fishery, which produces up to 40 million mature wild salmon each year. The 111-page report, produced by the Wild Salmon Center and Trout Unlimited, details multiple issues and concerns driven by the potential exploitation of Pebble's massive deposit of copper, gold, and molybdenum.

Preliminary proposals and studies presented by developers indicate that the Pebble Mine:

- contains ore that has a high likelihood of generating acid mine drainage, which is severely harmful to salmon and other aquatic species;
- will produce up to 10.8 billion tons of waste rock, requiring miles of tailings dams initially proposed up to 740 feet high;
- may use 35 billion gallons of fresh water per year, more than three times the usage of Anchorage, Alaska's largest city; and
- will construct multiple sources of contamination, including: an open pit and underground mine, an 86 mile road and pipeline route, a deep-water port and other infrastructure.

The report emphasizes that approval of the Pebble Mine and its infrastructure will likely lead to the development of a much larger mining district, substantially increasing the odds that mining will harm Bristol Bay's wild salmon ecosystem. The report also presents several case studies in which mining companies polluted surrounding waters and left expensive cleanup costs to American taxpayers.



An unprecedented coalition of Alaska Native tribes and corporations, sportsmen, commercial fishermen and others have asked the EPA to protect Bristol Bay by withdrawing the watershed as a disposal site for dredge and fill activities under Section 404(c) of the Clean Water Act. The EPA is currently conducting a scientific assessment of the Bristol Bay watershed to determine whether large-scale development would adversely impact the region's natural resources.

"This report confirms what hunters and anglers from Alaska to Maine are most worried about — Pebble Mine will damage a place that is a critical part of America's sporting heritage," said Shoren Brown, Bristol Bay campaign director for Trout Unlimited. "It provides a thorough analysis of the mine's potential impacts and makes a compelling case for why a 404(c) process is necessary to protect Bristol Bay

Palmer Hough, Environmental Scientist tel: 202.566.1374 I fax: 202.566.1375

Wetlands Division
U.S. EPA Headquarters (MC 4502T)
1200 Pennsylvania Avenue, NW
Washington, DC 20460
www.epa.gov/wetlands

EPA-2706

Nancy Stoner/DC/USEPA/US

To "Reynolds, Joel"

06/14/2010 03:43 PM

cc sbrown

bcc

Subject Re: FW: Tribes request 404(c) process

Joel,

I passed along your request to others here. I am not supposed to set up meetings with NRDC staff, but can attend such a meeting if there are enough others in attendance.

I am well and miss everyone at NRDC.

Nancy Stoner Deputy Assistant Administrator **US Environmental Protection Agency** Office of Water Telephone: (202) 564-5700

FAX: (202) 564-0488

Mailing Address: 1200 Pennsylvania Avenue, NW, Mail Code 4101M, Washington, DC 20460-0001

Physical/FedEx/Courier Address: 1201 Constitution Ave., NW, Rm. 3219B East Bldg., Washington, DC

20004-3302

Washington, DC 20004-3302

"Reynolds, Joel"

Nancy - I hope all is well.

06/14/2010 04:05:44 PM

From: To:

"Reynolds, Joel" < jreynolds@nrdc.org> Nancy Stoner/DC/USEPA/US@EPA

Cc:

<sbrown@tu.org>

Date:

06/14/2010 04:05 PM

Subject:

FW: Tribes request 404(c) process

Nancy - I hope all is well.

On behalf of a coalition of groups (including NRDC) concerned about the proposed Pebble Mine in southwest Alaska, I'm writing to request a meeting or conference call with representatives of the coalition at a time convenient for you in later June or July. The purpose of the call wid be to discuss w you the request laid out in the attached letter.

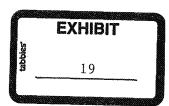
I'm copying Shoren Brown of Trout Unlimited on this email since he will be the lead contact for the groups requesting and attending the meeting.

Many thanks.

Best regards,

Joel

Joel Reynolds Senior Attorney



Director, Southern California Program Natural Resources Defense Council 1314 Second Street Santa Monica, CA 90401 (310) 434-2300 (310) 434-2399 (fax)

jreynolds@nrdc.org

PRIVILEGE AND CONFIDENTIALITY NOTICE

This message is intended only for the use of the individual or entity to which it is addressed and may contain information that is privileged, confidential and exempt from disclosure under applicable law as attorney client and work-product confidential or otherwise confidential communications. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this communication or other use of a transmission received in error is strictly prohibited. If you have received this transmission in error, immediately notify us at the above telephone number.

Please consider the environment before printing this email [attachment "Six Tribes' Joint Letter to EPA requesting 404(c) process.pdf" deleted by Nancy Stoner/DC/USEPA/US] [attachment "Enclosure_1_Counsel Request meet w Corps, EPA re tribes as cooperating agencies.pdf" deleted by Nancy Stoner/DC/USEPA/US] [attachment "Enclosure_2_ Tribes & AIFMA's Joint Letter to Rep. Edgmon w Briefing Paper.pdf" deleted by Nancy Stoner/DC/USEPA/US]



Bristol Bay Native Corporation Meeting (Conference Call-in No.

Nonresponsive - Conference Code : - Stoner leader)

Calendar Entry

Tue 03/29/2011 12:00 PM - 1:00 PM

Chair.

Nancy Stoner/DC/USEPA/US Mertha Workman/DC/USEPA/US

Sent By Location:

3233 EPA East (Enter 1201 Constitution Avenue NW, EPA East Building closest to 12th Street) - Check in with Guard Desk, they will call 202-564-5700 to arrange for someone to come down and sign in and then escort participants to meeting

Required;

Optional:

Benita Best-Wong/DC/USEPA/US@EPA, David Evans/DC/USEPA/US@EPA, Denise

Keehner/DC/USEPA/US@EPA, Felicia Wright/DC/USEPA/US@EPA, Gregory
Peck/DC/USEPA/US@EPA, Ex. 6 PII, Kimberly Williams Ex. 6 PII, Peter Van Tuyn Tom

Danielle Anderson/DC/USEPA/US@EPA, Darren Reid/DC/USEPA/US@EPA, Jacqueline

Poole/DC/USEPA/US@EPA, Lakita Stewart/DC/USEPA/US@EPA, Michelle

DePass/DC/USEPA/US@EPA, Mike Shapiro/DC/USEPA/US@EPA

Description

POC: Peter Van Tuyn < Ex. 6 Pil, Peter Van Tuyn > (will send list of participants before the meeting and any additional materials to Martha Workman (workman.martha@epa.gov)

(907) 278-2000

Kimberly Williams <nunamtaexdir@gmail.com>

Felicia Wright (EPA) OW - 202-566-1886

W.777

EPA 404c 081210 FINAL signed pdf BBNC EPA 404c PR 081210 FINAL pdf

EXHIBIT



Enriching Our Native Way of Life

111 West 16th Avenue, Suite 400 / Anchorage, Alaska 99501 / (907) 278-3602 / Fax (907) 276-3924

August 12, 2010

Dennis J. McLerran, Regional Administrator Environmental Protection Agency, Region 10 1200 Sixth Avenue, Suite 900 Seattle, WA 98101

Phone: (206) 553-1200, (800) 424-4372

Fax: (206) 553-2955

Via electronic and first class mail

Re: Clean Water Act 404(c) process to prohibit certain lands from use as a disposal site for dredged or fill material

Dear Mr. McLerran:

Bristol Bay Native Corporation (BBNC) respectfully requests that EPA initiate a public administrative process to carefully tailor a prohibition of the discharge of dredged or fill material from the proposed Pebble mine, located on specific land owned by the State of Alaska at the headwaters of the Kvichak and Nushagak River drainages under Section 404(c) of the Clean Water Act. The Act authorizes the Administrator of EPA to prohibit, restrict, or deny the discharge of dredged or fill material at defined sites in waters of the United States (including wetlands) when the use of such sites for disposal would have an unacceptable adverse impact on fisheries, wildlife, municipal water supplies, or recreational areas. This request fully meets those requirements.

The Pebble Limited Partnership (PLP)¹ has mining claims in the Bristol Bay region, and proposes a large scale metallic sulfide mine in this area. The massive scope of PLP's proposed mine, the importance and sensitivity of these river drainages and the known facts about the persistence and permanence of impacts to water quality from this type of mining activity are clear indicators that a mine such as that proposed by PLP would present an unacceptable risk of irreparable harm to water, fishery and wildlife resources.

Bristol Bay Native Corporation Background

BBNC is a for-profit corporation created by Congress pursuant to the Alaska Native Claims Settlement Act (ANCSA) to represent the economic, social and cultural interests of the Native people from the Bristol Bay region of Alaska. BBNC represents almost 8,700 shareholders.

¹ Pebble Limited Partnership is a 50:50 partnership between Northern Dynasty Minerals Ltd and Anglo American PLC.

With enactment of ANCSA, the people of the Bristol Bay region relinquished claims to millions of acres of aboriginal homeland in exchange for uncontested title over nearly three million subsurface acres in the Bristol Bay region and \$30 million dollars. From the inception of the corporation the directors of BBNC have taken very seriously the responsibility to protect the assets put into their care. The board of directors has followed a long term strategy of responsible development of lands, prudent investment of BBNC financial resources, and maintained the commitment to protect Native culture and the subsistence way of life. BBNC has provided reliable dividends payments to shareholders, created an education foundation, and advocated on behalf of subsistence rights. BBNC continues this work in furtherance of its mission to "enrich our Native way of life."

The Bristol Bay region is one of Alaska's most varied, beautiful, and bountiful. From Togiak to Nondalton and south to Ivanof Bay, it is home to myriad mountains, lakes, and islands. Situated 150 miles southwest of Anchorage, the region's communities are geographically isolated from the rest of the state—and in most cases from one another. Most of the communities in the Bristol Bay region are self-reliant, operating without the benefit of interconnected road and utility systems. The vast majority of households rely on subsistence fishing and hunting for a large percentage of their food.

The economy of the region is dominated by commercial, sport, and subsistence salmon fishing. For some residents fishing provides nearly year-round employment with most activity taking place during the five months of May through September. The watershed of the Bristol Bay region is a sprawling, permeable, porous, network of creeks and streams perfectly designed to produce salmon. In fact, if Alaska were a nation, it would place ninth among seafood producing countries. Forty-two percent of the world's harvest of wild salmon, and 80 percent of the production of high-value wild salmon species such as Sockeye, King and Coho salmon, are from Alaska. Salmon is the most valuable commercial fish managed by the state of Alaska, and Bristol Bay is Alaska's richest commercial fishery. In Bristol Bay, the 2008 harvest of all salmon species was approximately 29.3 million fish, and the preliminary ex-vessel value of this 2008 commercial catch was approximately \$113.3 million. Nearly one-third of all of Alaska's salmon harvest earnings came from Bristol Bay.

Salmon are a revered renewable resource that has been harvested sustainably for millennia. The salmon is central to the cultural traditions of the diverse Native cultures of Bristol Bay. Salmon harvesting is essential to the continued economic and cultural viability of the region's inhabitants and to the economic well being of the State of Alaska.

BBNC has experience gained from four decades of stewardship over three million acres of entitlement lands. Throughout those years of stewardship, BBNC's leaders, with input from its land managers and scientists, have balanced the commitment to a traditional lifestyle and a sustainable relationship with the salmon with prudent development of BBNC's other natural resources. BBNC recognizes the region's need to diversify its economy and has investigated non-renewable resource development on its lands in order to provide economic opportunities for its shareholders. BBNC, however, is committed to conservative, sustainable resource and

mineral development that does not negatively impact the region's traditional mainstay: fish harvest.

Environmental safeguards, rigorous permitting regimes and active oversight are protocols supported by BBNC in any development effort. Based on all current and available information, the proposed Pebble mine presents an unacceptable risk to the watershed of the Bristol Bay region, thereby threatening the fish harvest of Bristol Bay. The vast size of the proposed development magnifies the ramifications of any potential harm so that the impacts become almost unquantifiable. The economic benefit to the region from the proposed Pebble mine simply does not justify the loss of habitat and contamination risks to our fisheries and the long-term sustainability of Bristol Bay area cultures.

Pebble Limited Partnership Plans Large-Scale Metallic Sulfide Mining

PLP holds mining claims on over 200 square miles of state land within the Bristol Bay Watershed. The company plans to mine these claims for copper, gold and molybdenum.

While the exact parameters of PLP's proposed mine are not yet known, there is sufficient information to know that the proposed mine's risks are too great to accept. PLP's planning and exploration documents indicate that the final mine site would likely be 15 square miles, and include an open pit mine and an underground, block-caving mine. By 2006 estimates, the open pit mine would be 2 miles wide and produce up to 2.5 billion tons of acid-generating waste rock and discharged chemicals. Recent PLP estimates show nearly 11 billion tons of mineral resources, which, if recovered, would generate significantly more acid-generating waste rock. PLP plans to store the tailings waste in artificial lakes restrained by earthen dams. The largest of the dams would be 740 feet tall and 4.3 miles long, as proposed in 2006. The project also would require many miles of roads and bridges within the mine site as well as a 100-mile road to a port facility on Cook Inlet. The port site would require additional facilities to store metal concentrates and fuel, a ship loading structure, barge landing, and offices and housing for workers. Operation of the mine would require pipelines for fuel and rock slurries, electrical power lines, and the constant transport and use of fuel and industrial and domestic chemicals and supplies.

Unacceptable Adverse Impacts from Known Hazards

The proposed mine site is at the top of a hydrologic divide in an especially wet area. The impoundment facilities planned by PLP will create at least two large tailings ponds that sit on highly permeable sand and gravel. Contamination from the disposed mining waste to ground and surface water in this remote region will thus be extremely difficult to contain over time. The high seismicity of the area in which PLP proposes to mine also poses an unacceptable risk of dam failure and increases the risk of ground and surface water contamination.

These risks to Bristol Bay resources from leaching and potential dam failure are something that the people of this region will face long after the proposed mine has stripped the mineral wealth and ceased operating. The impoundment of mining tailings would occur in the

² See http://www.pebblepartnership.com/project/faqs ("The Pebble mineral resource totals 5.94 billion tonnes measured and indicated, and 4.84 billion tonnes inferred.")

remote and largely uninhabited watershed that provides important spawning grounds for Bristol Bay's world-class salmon fisheries. Contamination to surface and ground water would impact these fisheries, and an impoundment failure quickly would reach BBNC lands and Bristol Bay itself, and thus be devastating to the people of this region.

Tailings impoundment problems and failures, and water contamination at mines of this size around the world, demonstrate that the proposed Pebble mine would pose unacceptable risks of irreparable harm to the water quality and the natural and renewable resources in this region and to the economic, cultural and environmental values that BBNC seeks to protect for its shareholders.

Conclusion

Under section 404(c), EPA has the authority to prohibit or otherwise restrict specified areas from the discharge of dredged or fill material before a permit application has been submitted to the Army Corps of Engineers. BBNC requests that EPA begin this process. What is already known about the scope of current project planning and known contamination from this type of mining poses an unacceptable risk to our shareholders, their subsistence-based livelihoods, and the prospects for future, long-term economic development opportunities for the region.

We urge you to begin the 404(c) process immediately and look forward to working with EPA to supply additional information about the resources of this region that may assist in carefully crafting a prohibition that avoids the unacceptable adverse impacts from the proposed Pebble project.

Sincerely,

Jason Metrokin

President and Chief Executive Officer

wombutto

cc: Marcia Combes, Director, EPA Alaska Operations Office

Combes.Marcia@epa.gov

Lisa P. Jackson, Administrator **Environmental Protection Agency** Aerial Rios Building 1200 Pennsylvania Avenue, N.W. Washington, D.C. 20460 Phone: (202) 272-0167 jackson.lisap@epa.gov



FOR IMMEDIATE RELEASE

August 12, 2010

Contact:
Jason Metrokin
President & Chief Executive Officer
(907) 278-3602 or jmetrokin@bbnc.net

BBNC Submits Request to EPA to Protect Bristol Bay Resources

Anchorage, AK – Bristol Bay Native Corporation submitted a letter to the Environmental Protection Agency requesting that EPA use its authority under Section 404(c) of the Clean Water Act to carefully tailor a prohibition on the discharge of dredged or fill material from the proposed Pebble mine. BBNC has taken this action because it believes the proposed Pebble mine presents unacceptable risks to BBNC resources and its shareholders' way of life. Section 404(c) can eliminate this risk, while allowing for responsible resource development in the Bristol Bay region. As envisioned by BBNC, the prohibition would be limited to specific land owned by the State of Alaska at the headwaters of the Kvichak and Nushagak River drainages in Southwest Alaska.

BBNC is committed to the protection and responsible care of the resources of the Bristol Bay region. BBNC opposes the development of the proposed Pebble mine project given the unquantifiable and irreparable impacts the project could have on the natural resources of the Bristol Bay region.

"BBNC has been a company committed to responsible development for nearly 40 years," said Jason Metrokin, BBNC President and CEO. "With Section 404(c), we recognized the opportunity to be proactive and specific in our opposition to Pebble mine, and this is one part of a broader implementation of our corporation's commitment to protecting the sustainable natural resources in Bristol Bay and further sustainable economic development."

"BBNC supports responsible economic development in the region that is consistent with BBNC shareholder values. This action expresses the corporation's continued emphasis on the proper protection of resources in the Bristol Bay region," said Joseph L. Chythlook, Chairman of the Board of Directors.

About BBNC: Bristol Bay Native Corporation is one of 13 Regional Corporations formed under the Alaska Native Claims Settlement Act of 1971. The corporation is a diversified company with investment and business holdings in a stock portfolio and card lock fueling, corrosion inspection, environmental engineering and remediation, oilfield and environmental cleanup, construction and government contracting services.

The corporation has more than 8,600 Eskimo, Aleut, and Athabascan shareholders with ancestral ties to the Bristol Bay region. More information can be found at www.bbnc.net.

###

```
> Also for now I guess I am the contact person for the process. We do want
 > to be involved, of course, in the consultation process from the > beginning and throughout. As soon as I can catch up to Tom, I will get > his signature on the forms and send them to you. Thanks for your help in
 > this critical ma
       tter and
 > have a great week-end. Billy ----Original Message---- From:
> Fordham. Tami@epamail.epa.gov [mailto:Fordham.Tami@epamail.epa.gov]
 > Sent: Wednesday, March 16, 2011 02:51 PM To:
                                                                                                             Richard King',
                                                          'Joanne Wassillie', 'Snaron Clark', 'Shirley
     Andrew' Ex.6 PH pipenvironmental@yahoo.com,
                   ıdı
 > ~
                                                                                Control Marie Control
                                               let,
 > k
                                                                                                                                                              301/
                                                                "-nwassiiiieenoomoil.com,
                                                            ...chnsscudland.ned, /
 > Wright.Felicia@epamail.epa.gov, Hough.Palmer@epamail.epa.gov,

    > Parkin.Richard@epamail.epa.gov, North.Phil@epamail.epa.gov,
    > Steiner-Riley.Cara@epamail.epa.gov, Cohon.Keith@epamail.epa.gov,
    > Foster.Westley@epamail.epa.gov, Thomas.Sally@epamail.epa.gov Subject:

 > Bristol Bay Watershed Ass
     essment
> - Tribal Government Informational Teleconference Call - Thursday March > 17th @ 930AM AK Time Good Morning, This is a reminder that there will be > an informational teleconference call for the tribal governments
 > regarding the Bristol Bay Watershed Assessment. The intent of this call > is to provide an overview of the Bristol Bay Watershed Assessment and to
s is to provide an overview of the Bristol Bay Watershed Assessment and to discuss the various opportunities for tribal government consultation and community involvement. I look forward to talking with you tomorrow, have a great day! Sincerely - Tami The call is at 930AM Alaska time, and the call in number is Nonesponder Conference Code ENDIA: -

Introductions - Overview - Goals for the call today - Tami - What is the Bristol Bay Watershed Assessment - Rick & Phil - EPA Lead Points of

Contact - Rick, Phil, Tami, Felicia - Intergovernmental Technical Review - Team - Rick - Bristol Bay Watershed Assessment - Overview of Timeline - Rick & Phil - April/May - Outline Review (Intergovernmental Technical R
> Meeting) - June/July - Preliminary Draft Report (Intergovernmental
> Meeting & Tribal Review Meeting) - Develop Draft - Public Meeting & Tribal > Consultation - Peer Review Draft - Draft - Final Document - Public > Meeting & Tribal Consultation - Final Document - Traditional Knowledge > Work - Phil & Alan - Request for Data - Phil - Tribal Consultation
> Planning - Tami & Westley - Subsistence Seasons - Other Activities -
```

EPA-1083

"jeff parker"
Ex. 6 Pll, Jeff Parker
02/14/2012 01:18 PM

To Palmer Hough, Richard Parkin

cc Phil North

bcc

Subject Schedule for Watershed Assessment and 404(c)

1 attachment



Memo to Hough, Parkin re Schedule_Assessment_404(c) process.doc

Palmer and Rick,

I am attaching a memo that recommends how to speed up the current process for the watershed assessment and any 404(c) determination. I suggest shifting from a "linear" schedule to an "overlapping" schedule, along the lines described in the attached memo.

If it helps, we might talk.

Best regards,

Jeff Parker

GEOFFREY Y. PARKER

Phone: (907) 222-6859 Fax: (907) 277-2242

E-mail: Ex. 6 PII, Jeff Parker

634 K Street, Anchorage, Alaska 99501

To:

Palmer Hough, EPA; Rick Parkin, EPA

CC:

Phil North, EPA

From: Geoffrey Y. Parker

An overlapping schedule speeds up EPA's watershed assessment and 404(c) process

related to metallic sulfide mining in the Kvichak and Nushagak drainages.

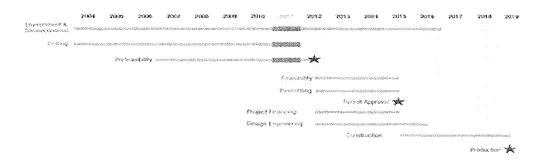
Date: February 14, 2012

This recommends that EPA shift from a "linear" to an "overlapping" schedule for its watershed assessment and 404(c) process. Doing so can maintain and improve quality, and should result in a legally more defensible final decision. In a linear schedule, each step depends on completing a prior step. In an overlapping schedule, the timing of various steps overlaps others.

EPA's current schedule appears basically linear. Completing each step for the most part depends on completing a prior step. I understand that the schedule looks something like this:

Early Mar. 2012	Early May 2012	May - early June 2012	Late June and July 2012	Aug. 2012	Late Nov. or early Dec. 2012	Jan. 2013 or later	Feb. 2013 or later
Circulate interagency draft Kvichak- Nushagak watershed assessment	Release public review draft Kvichak- Nushagak watershed assessment	Public meetings, hearings on public review draft Kvichak-Nushagak watershed assessment	Peer review of draft Kvichak- Nushagak watershed assessment	Completion of peer review of public review draft Kvichak-Nushagak watershed assessment	Final Kvichak- Nushagak watershed assessment. 404(c) notice to the Corps. Release draft 404(c) determ- ination for public comment	Public comment and hearings on draft 404(c) determination	EPA's final decision on making a 404(c) determination if any.

By contrast, NDM and PLP use an overlapping schedule. NDM's current timeline is at http://www.northerndynastyminerals.com/ndm/P PS.asp:



A famous example of an overlapping schedule is construction of Liberty Ships during World War II. The first used a linear method and took 244 days to build. Then, shipyards used an overlapping method by which modules were built at the same time and assembled. The same ships were built on average in 42 days. See http://www.jajones.com/pdf/Liberty_Ships_of_WWII.pdf.

Here is an example of an overlapping schedule for reaching a 404(c) decision during the current Administration. (I have highlighted the potentially overlapping tasks in yellow and put potentially overlapping documents in italics.)

Early Mar. to early May 2012	May to early June 2012	Late June and July 2012	Aug. 2012	Sept. 2012 to late Nov. or	Oct. to Late Nov. 2012	Dec. 2012 or early Jan. 2013	
				early Dec. 2012			
Phase 1: Interagency review	Phase 2: First phase of public comment and peer review.			Phase 3: Second phase of public comment and peer review, and Final Decision			
EPA circulates for interagency comment, a pre-	First set of public comments and hearings in Phase 2.			Second set of public comments and hearings in Phase 3.			
peer review, pre- public comment, draft of <i>Kvichak</i> -	300000000000000000000000000000000000000	Peer review in Pl >>>>>>> (peer rev. ends ear	>>>> >		Peer review in Pl		
Nushagak			>>>>> >		5555	>>>>> >	
watershed		ROLAUSSAN	evises document		100 March 2004	revises document	
assessment and notice to agencies that EPA is considering releasing this in May (after interagency review) as a prepeer review draft for public comment on a combined draft watershed assessment and draft 404(c) determination.	EPA releases post-interagency, pre-peer review draft of a Kvichak-Nushagak watershed assessment and potential 404(c) determination. EPA holds public meetings and hearings. This allows the public, agencies, and NDM/PLP to raise issues that should be addressed in peer review. Alternative #1 for timing of Notice to Corps: EPA could issue a 404(c) notice to the Corps in May that metallic sulfide mining could have an unacceptable adverse effect	EPA submits for peer review the draft Kvichak-Nushagak watershed assessment and potential 404(c) determination. Alternative #2 for timing of Notice to Corps: EPA could issue a 404(c) notice to the Corps, in late June, that metallic sulfide mining could have an unacceptable adverse effect under 404(c).	Peer reviewers complete their review (in Phase 2) of public review draft, including in light of comments by agencies, public, PLP/NDM, etc. Alternative #3 for Notice to Corps: EPA could issue a 404(c) notice to the Corps, in early to mid-August, that metallic sulfide mining could have an unacceptable adverse effect under 404(c).	EPA releases post-Phase 2, peer reviewed draft Kvichak- Nushagak watershed assessment and draft 404(c) determination. EPA holds public meetings and hearings on post-peer review draft. Alternative #4 for Notice to Corps: EPA could issue a 404(c) notice to the Corps, in September, that metallic sulfide mining could have an unacceptable adverse effect under 404(c).	EPA submits for additional peer review (in Phase #3) the draft Kvichak-Nushagak watershed assessment and proposed final 404(c) determination.	EPA's issues Final Decision on making a 404(c) determination, and the Final Determination, if any.	

This overlapping schedule has substantive and other advantages. First, it allows two phases of peer review. This should create a better, and legally more defensible, final decision. By contrast, the existing schedule allows only one phase of peer review, and it is for the assessment, rather than for the 404(c) document, even though the two documents are likely to be substantially similar.

Second, this overlapping schedule allows two phases of comments by the public, including PLP/NDM, and three phases by agencies, on a document that would be accurately described as possibly resulting in a 404(c) determination. Each phase can influence the final determination. This is fairer to everyone, because everyone will know that they are reviewing a document that may result in a final determination. By contrast, the existing schedule allows one phase of comment on a draft watershed assessment, and one phase of comment on a proposed 404(c) determination. This invites confusion over the relationship of these two documents. Having two phases of comment on a combined draft-assessment-draft-potential-404(c)-determination should assist peer review, improve efficiency, and further improve the legal defensibility of a final decision. To see this, put yourself in the shoes of the public, or a court for that matter. Having two documents, i.e., a separate watershed assessment and a separate 404(c) document forces one to compare one to the other. Combining them does not and is straightforward, transparent, and efficient.

Third, to the extent that political considerations arising from the 2012 election may be a factor in EPA's timing, this schedule offers four alternative points at which EPA's Regional Administrator could issue a 404(c) notice to the Corps, which requires only a finding that metallic sulfide mining in the Kvichak and Nushagak drainages "could" have an unacceptable adverse effect on resources and uses that are subject to protection under Section 404(c). I do not profess know the political considerations of others, but I assume that issuing such a notice more in advance of the election is preferable to issuing it closer to the election.

Fourth, in the event that the President is not re-elected, this schedule gets to a 404(c) determination before the end of the current administration. EPA's current schedule is unlikely to do so.

Finally, if PLP withheld substantive content of its studies from its recently released reports (i.e., the so-called "data dump"), then this schedule encourages PLP to be forthcoming sooner, rather than later. By contrast, EPA's current schedule encourages PLP to withhold information until advantageous to release it, presumably after EPA provides notice to the Corps, which under the current schedule occurs very late in 2012. Under an over-lapping schedule, the notice to the Corps could occur much sooner, at any of the points identified on the above overlapping schedule.

I encourage you think about reaching a 404(c) decision as if EPA were building a Liberty Ship.

Best regards, Jeff Parker

sflensburg, "Executive Director", manager, planner cc Patricia McGrath, Westley Foster, Greg Kellogg, Richard Parkin bcc Subject RE: Administrator Lisa Jackson Visit to Dillingham - Update Please Respond by Tuesday July 20th 1 attachment AiningClaims_2008_2010_companies_area_15Julyc.jpg 11, esterday, I received from Carol Ann Woody the attached, updated map of ining claims in the area at and surrounding the Pebble claims. do not know who prepared this map. It appears to be based on DNR's data. ou might find it useful for your meetings with EPA. The map appears to how a larger area under current mining claims than previously mapped. est regards,		o Talli rolunalii, i
sflensburg, "Executive Director", manager, planner c Patricia McGrath, Westley Foster, Greg Kellogg, Richard Patricia McGrath, Westley Foster, Greg Kellogg, Richard Doc Subject RE: Administrator Lisa Jackson Visit to Diffingham - Update Please Respond by Tuesday July 20th 1 attachment 1 attachment 11, esterday, I received from Carol Ann Woody the attached, updated map of ining claims in the area at and surrounding the Pebble claims. do not know who prepared this map. It appears to be based on DNR's data. Our might find it useful for your meetings with EPA. The map appears to how a larger area under current mining claims than previously mapped. est regards, eff Parker	L	· · · · · · · · · · · · · · · · · · ·
sflensburg, "Executive Director", manager, planner cc Patricia McGrath, Westley Foster, Greg Kellogg, Richard Parkin bcc Subject RE: Administrator Lisa Jackson Visit to Dillingham - Update Please Respond by Tuesday July 20th 1 attachment AlmingClaims_2008_2010_companies_area_15Julyc.jpg 11, esterday, I received from Carol Ann Woody the attached, updated map of ining claims in the area at and surrounding the Pebble claims. do not know who prepared this map. It appears to be based on DNR's data. Out might find it useful for your meetings with EPA. The map appears to how a larger area under current mining claims than previously mapped. est regards, eff Parker Original Message rom: Fordham.Tami@epamail.epa.gov (mailto:Fordham.Tami@epamail.epa.gov) ent: Friday, July 16, 2010 3:45 PM O:	07/17/2010 02:51 PM	an
sflensburg, "Executive Director", manager, planner cc Patricia McGrath, Westley Foster, Greg Kellogg, Richard Patricia McGrath, Westley Foster, Greg Kellogg, Richard Patricia McGrath, Westley Foster, Greg Kellogg, Richard Please Respond by Tuesday July 20th 1 attachment AliningClaims_2008_2010_companies_area_15Julyc.jpg 11, esterday, I received from Carol Ann Woody the attached, updated map of ining claims in the area at and surrounding the Pebble claims. do not know who prepared this map. It appears to be based on DNR's data. ou might find it useful for your meetings with EPA. The map appears to how a larger area under current mining claims than previously mapped. est regards, eff Parker		the state of the s
sflensburg, "Executive Director", manager, planner cc Patricia McGrath, Westley Foster, Greg Kellogg, Richard Parkin bcc Subject RE: Administrator Lisa Jackson Visit to Dillingham - Update Please Respond by Tuesday July 20th 1 attachment AliningClaims_2008_2010_companies_area_15Julyc.jpg 11, esterday, I received from Carol Ann Woody the attached, updated map of ining claims in the area at and surrounding the Pebble claims. do not know who prepared this map. It appears to be based on DNR's data. ou might find it useful for your meetings with EPA. The map appears to how a larger area under current mining claims than previously mapped. est regards, eff Farker		
sflensburg, "Executive Director", manager, planner cc Patricia McGrath, Westley Foster, Greg Kellogg, Richard Parkin bcc Subject RE: Administrator Lisa Jackson Visit to Dillingham - Update Please Respond by Tuesday July 20th 1 attachment AliningClaims_2008_2010_companies_area_15Julyc.jpg 11, esterday, I received from Carol Ann Woody the attached, updated map of ining claims in the area at and surrounding the Pebble claims. do not know who prepared this map. It appears to be based on DNR's data. out might find it useful for your meetings with EPA. The map appears to show a larger area under current mining claims than previously mapped. est regards, eff Parker		r " ar waternihav
sflensburg, "Executive Director", manager, planner cc Patricia McGrath, Westley Foster, Greg Kellogg, Richard Parkin bcc Subject RE: Administrator Lisa Jackson Visit to Dillingham - Update Please Respond by Tuesday July 20th 1 attachment AiningClaims_2008_2010_companies_area_15Julyc.jpg 11, esterday, I received from Carol Ann Woody the attached, updated map of ining claims in the area at and surrounding the Pebble claims. do not know who prepared this map. It appears to be based on DNR's data. ou might find it useful for your meetings with EPA. The map appears to how a larger area under current mining claims than previously mapped. est regards, eff Farker Original Message rom: Fordham.Tami@epamail.epa.gov [mailto:Fordham.Tami@epamail.epa.gov] ent: Friday, July 16, 2010 3:45 PM O: Late		
sflensburg, "Executive Director", manager, planner cc Patricia McGrath, Westley Foster, Greg Kellogg, Richard Parkin boc Subject RE: Administrator Lisa Jackson Visit to Dillingham - Update Please Respond by Tuesday July 20th 1 attachment MiningClaims_2008_2010_companies_area_15Julyc.jpg 11, esterday, I received from Carol Ann Woody the attached, updated map of ining claims in the area at and surrounding the Pebble claims. do not know who prepared this map. It appears to be based on DNR's data. Out might find it useful for your meetings with EPA. The map appears to how a larger area under current mining claims than previously mapped. est regards, eff ParkerOriginal Message rom: Fordham.Tami@epamail.epa.gov [mailto:Fordham.Tami@epamail.epa.gov] ent: Friday, July 16, 2010 3:45 PM 1 breed@bbahc.org; Daniel Chythlook;		b is a second of the second of
sflensburg, "Executive Director", manager, planner cc Patricia McGrath, Westley Foster, Greg Kellogg, Richard Parkin boc Subject RE: Administrator Lisa Jackson Visit to Dillingham - Update Please Respond by Tuesday July 20th 1 attachment LiningClaims_2008_2010_companies_area_15Julyc.jpg LiningClaims_2008_2010_companies_area_15Julyc.jpg Lining claims in the area at and surrounding the Pebble claims. do not know who prepared this map. It appears to be based on DNR's data. Dou might find it useful for your meetings with EFA. The map appears to now a larger area under current mining claims than previously mapped. Dest regards, Left Parker		
sflensburg, "Executive Director", manager, planner cc Patricia McGrath, Westley Foster, Greg Kellogg, Richard Parkin boc Subject RE: Administrator Lisa Jackson Visit to Dillingham - Update Please Respond by Tuesday July 20th 1 attachment finingClaims_2008_2010_companies_area_15Julyc.jpg 11, esterday, I received from Carol Ann Woody the attached, updated map of ining claims in the area at and surrounding the Pebble claims. do not know who prepared this map. It appears to be based on DNR's data. Du might find it useful for your meetings with EPA. The map appears to how a larger area under current mining claims than previously mapped. est regards, eff Parker		
sflensburg, "Executive Director", manager, planner cor Patricia McGrath, Westley Foster, Greg Kellogg, Richard Parkin boc Subject RE: Administrator Lisa Jackson Visit to Dillingham - Update Please Respond by Tuesday July 20th 1 attachment AnningClaims_2008_2010_companies_area_15Julyc.jpg 11, esterday, I received from Carol Ann Woody the attached, updated map of ining claims in the area at and surrounding the Pebble claims. do not know who prepared this map. It appears to be based on DNR's data. 1 appears to be based on DNR's data. 1 appears to be based on DNR's data. 1 appears to be based on DNR's data. 2 appears to be based on DNR's data. 2 appears to be based on DNR's data. 3 appears to be based on DNR's data. 4 appears to be based on DNR's data. 4 appears to be based on DNR's data. 5 appears to be based on DNR's data. 6 appears to be based on DNR's data. 7 appears to be based on DNR's data. 8 appears to be based on DNR's data. 9 appears to be bas		•
cc Patricia McGrath, Westley Foster, Greg Kellogg, Richard Parkin bcc Subject RE: Administrator Lisa Jackson Visit to Dillingham - Update Please Respond by Tuesday July 20th 1 attachment AliningClaims_2008_2010_companies_area_15Julyc.jpg 11, esterday, I received from Carol Ann Woody the attached, updated map of ining claims in the area at and surrounding the Pebble claims. do not know who prepared this map. It appears to be based on DNR's data. 1 attachment 1 attachment 1 attachment 1 attachment 1 attachment 1 attachment 2 attached, updated map of ining claims in the area at and surrounding the Pebble claims. 4 do not know who prepared this map. It appears to be based on DNR's data. 2 bout might find it useful for your meetings with EPA. The map appears to how a larger area under current mining claims than previously mapped. 2 est regards, eff Parker		
Subject RE: Administrator Lisa Jackson Visit to Dillingham - Update Please Respond by Tuesday July 20th 1 attachment AiningClaims_2008_2010_companies_area_15Julyc.jpg 11, esterday, I received from Carol Ann Woody the attached, updated map of ining claims in the area at and surrounding the Pebble claims. do not know who prepared this map. It appears to be based on DNR's data. Out might find it useful for your meetings with EPA. The map appears to how a larger area under current mining claims than previously mapped. est regards, eff Parker Original Message rom: Fordham.Tami@epamail.epa.gov [mailto:Fordham.Tami@epamail.epa.gov] ent: Friday, July 16, 2010 3:45 PM D: EX.6 PN Parkin Plant Please Respond by Tuesday July 20th Please Respond by Tuesday July 20th Please Respond by Tuesday July 20th Parkin Please Respond by Tuesday July 20th Please Respond by Tuesday Jul		
Subject RE: Administrator Lisa Jackson Visit to Dillingham - Update Please Respond by Tuesday July 20th 1 attachment AiningClaims_2008_2010_companies_area_15Julyc.jpg 11, esterday, I received from Carol Ann Woody the attached, updated map of ining claims in the area at and surrounding the Pebble claims. do not know who prepared this map. It appears to be based on DNR's data. Our might find it useful for your meetings with EPA. The map appears to how a larger area under current mining claims than previously mapped. est regards, eff Parker Original Message rom: Fordham.Tami@epamail.epa.gov [mailto:Fordham.Tami@epamail.epa.gov] ent: Friday, July 16, 2010 3:45 PM O:		
Subject RE: Administrator Lisa Jackson Visit to Diffingham - Update Please Respond by Tuesday July 20th 1 attachment AnningClaims_2008_2010_companies_area_15Julyc.jpg 11, esterday, I received from Carol Ann Woody the attached, updated map of ining claims in the area at and surrounding the Pebble claims. do not know who prepared this map. It appears to be based on DNR's data. Out might find it useful for your meetings with EPA. The map appears to how a larger area under current mining claims than previously mapped. est regards, eff Parker Original Message rom: Fordham.Tami@epamail.epa.gov [mailto:Fordham.Tami@epamail.epa.gov] ent: Friday, July 16, 2010 3:45 PM D: Ex.6 PN	h.,	
Please Respond by Tuesday July 20th 1 attachment tiningClaims_2008_2010_companies_area_15Julyc.jpg 11, esterday, I received from Carol Ann Woody the attached, updated map of ining claims in the area at and surrounding the Pebble claims. do not know who prepared this map. It appears to be based on DNR's data. Du might find it useful for your meetings with EPA. The map appears to now a larger area under current mining claims than previously mapped. est regards, eff Parker	DC	C ·
Please Respond by Tuesday July 20th 1 attachment iningClaims_2008_2010_companies_area_15Julyc.jpg iningClaims_2008_2010_companies_area_15Julyc.jpg ining claims_1 received from Carol Ann Woody the attached, updated map of ining claims in the area at and surrounding the Pebble claims. do not know who prepared this map. It appears to be based on DNR's data. but might find it useful for your meetings with EPA. The map appears to now a larger area under current mining claims than previously mapped. est regards, eff Parker Original Message com: Fordham.Tami@epamail.epa.gov [mailto:Fordham.Tami@epamail.epa.gov] ent: Friday, July 16, 2010 3:45 PM 2t;	Subje	ct RE: Administrator Lisa Jackson Visit to Dillingham - Update
ImingClaims_2008_2010_companies_area_15Julyc.jpg Lil, esterday, I received from Carol Ann Woody the attached, updated map of thing claims in the area at and surrounding the Pebble claims. do not know who prepared this map. It appears to be based on DNR's data. Du might find it useful for your meetings with EPA. The map appears to now a larger area under current mining claims than previously mapped. Est regards, eff Parker Original Message com: Fordham.Tami@epamail.epa.gov [mailto:Fordham.Tami@epamail.epa.gov] ent: Friday, July 16, 2010 3:45 PM Ext. 6 PH Ext. 6 PH		
diningClaims_2008_2010_companies_area_15Julyc.jpg 11, esterday, I received from Carol Ann Woody the attached, updated map of ining claims in the area at and surrounding the Pebble claims. do not know who prepared this map. It appears to be based on DNR's data. but might find it useful for your meetings with EPA. The map appears to now a larger area under current mining claims than previously mapped. est regards, eff Parker	1 attachment	
esterday, I received from Carol Ann Woody the attached, updated map of ining claims in the area at and surrounding the Pebble claims. do not know who prepared this map. It appears to be based on DNR's data. Du might find it useful for your meetings with EPA. The map appears to now a larger area under current mining claims than previously mapped. Dest regards,	t matter of triporty	
esterday, I received from Carol Ann Woody the attached, updated map of ining claims in the area at and surrounding the Pebble claims. do not know who prepared this map. It appears to be based on DNR's data. Du might find it useful for your meetings with EPA. The map appears to now a larger area under current mining claims than previously mapped. Dest regards,	:	
esterday, I received from Carol Ann Woody the attached, updated map of ining claims in the area at and surrounding the Pebble claims. do not know who prepared this map. It appears to be based on DNR's data. Du might find it useful for your meetings with EPA. The map appears to now a larger area under current mining claims than previously mapped. Dest regards,	الشتت.	to a
esterday, I received from Carol Ann Woody the attached, updated map of ining claims in the area at and surrounding the Pebble claims. do not know who prepared this map. It appears to be based on DNR's data. Du might find it useful for your meetings with EPA. The map appears to now a larger area under current mining claims than previously mapped. Dest regards, Set regards, Set Parker Original Message Tom: Fordham.Tami@epamail.epa.gov [mailto:Fordham.Tami@epamail.epa.gov] Sent: Friday, July 16, 2010 3:45 PM Dest regards, Set;	niningciaims_zoo8_zo10_companies_area_15Julyc	·jhā
esterday, I received from Carol Ann Woody the attached, updated map of ining claims in the area at and surrounding the Pebble claims. do not know who prepared this map. It appears to be based on DNR's data. Du might find it useful for your meetings with EPA. The map appears to now a larger area under current mining claims than previously mapped. Dest regards, Set regards, Set Parker Original Message Tom: Fordham.Tami@epamail.epa.gov [mailto:Fordham.Tami@epamail.epa.gov] Sent: Friday, July 16, 2010 3:45 PM Dest regards, Set;		•
esterday, I received from Carol Ann Woody the attached, updated map of ining claims in the area at and surrounding the Pebble claims. do not know who prepared this map. It appears to be based on DNR's data. ou might find it useful for your meetings with EPA. The map appears to how a larger area under current mining claims than previously mapped. est regards, eff Parker Original Message rom: Fordham.Tami@epamail.epa.gov [mailto:Fordham.Tami@epamail.epa.gov] ent: Friday, July 16, 2010 3:45 PM o:		
esterday, I received from Carol Ann Woody the attached, updated map of ining claims in the area at and surrounding the Pebble claims. do not know who prepared this map. It appears to be based on DNR's data. ou might find it useful for your meetings with EPA. The map appears to how a larger area under current mining claims than previously mapped. est regards, eff Parker Original Message rom: Fordham.Tami@epamail.epa.gov [mailto:Fordham.Tami@epamail.epa.gov] ent: Friday, July 16, 2010 3:45 PM o:		
esterday, I received from Carol Ann Woody the attached, updated map of ining claims in the area at and surrounding the Pebble claims. do not know who prepared this map. It appears to be based on DNR's data. ou might find it useful for your meetings with EPA. The map appears to how a larger area under current mining claims than previously mapped. est regards, eff Parker Original Message rom: Fordham.Tami@epamail.epa.gov [mailto:Fordham.Tami@epamail.epa.gov] ent: Friday, July 16, 2010 3:45 PM o:	וי	
do not know who prepared this map. It appears to be based on DNR's data. Du might find it useful for your meetings with EPA. The map appears to how a larger area under current mining claims than previously mapped. Dest regards,	1. J. J.	•
ining claims in the area at and surrounding the Pebble claims. do not know who prepared this map. It appears to be based on DNR's data. ou might find it useful for your meetings with EPA. The map appears to how a larger area under current mining claims than previously mapped. est regards, eff Parker Original Message rom: Fordham.Tami@epamail.epa.gov [mailto:Fordham.Tami@epamail.epa.gov] ent: Friday, July 16, 2010 3:45 PM O: Ex.6 PN Ex.6 PN Compormail com; Parket P	esterday. I received from Carol Apr	Woody the attached undated man of
do not know who prepared this map. It appears to be based on DNR's data. ou might find it useful for your meetings with EPA. The map appears to how a larger area under current mining claims than previously mapped. est regards, eff Parker Original Message rom: Fordham.Tami@epamail.epa.gov [mailto:Fordham.Tami@epamail.epa.gov] ent: Friday, July 16, 2010 3:45 PM O:		
ou might find it useful for your meetings with EPA. The map appears to how a larger area under current mining claims than previously mapped. est regards, eff Parker Original Message rom: Fordham.Tami@epamail.epa.gov [mailto:Fordham.Tami@epamail.epa.gov] ent: Friday, July 16, 2010 3:45 PM bit: St; Daniel Chythlook; St; Daniel Chythlook; St;	,	
how a larger area under current mining claims than previously mapped. est regards, eff Parker Original Message rom: Fordham.Tami@epamail.epa.gov [mailto:Fordham.Tami@epamail.epa.gov] ent: Friday, July 16, 2010 3:45 PM O:	do not know who prepared this map.	It appears to be based on DNR's data.
now a larger area under current mining claims than previously mapped. est regards, eff Parker Original Message rom: Fordham.Tami@epamail.epa.gov [mailto:Fordham.Tami@epamail.epa.gov] ent: Friday, July 16, 2010 3:45 PM 2:		
how a larger area under current mining claims than previously mapped. est regards, eff Parker Original Message rom: Fordham.Tami@epamail.epa.gov [mailto:Fordham.Tami@epamail.epa.gov] ent: Friday, July 16, 2010 3:45 PM o:		
est regards, eff Parker Original Message rom: Fordham.Tami@epamail.epa.gov [mailto:Fordham.Tami@epamail.epa.gov] ent: Friday, July 16, 2010 3:45 PM O:		
eff Parker Original Message rom: Fordham.Tami@epamail.epa.gov [mailto:Fordham.Tami@epamail.epa.gov] ent: Friday, July 16, 2010 3:45 PM o:	how a larger area under current mir	ing claims than previously mapped.
eff Parker Original Message rom: Fordham.Tami@epamail.epa.gov [mailto:Fordham.Tami@epamail.epa.gov] ent: Friday, July 16, 2010 3:45 PM o:		
Original Message rom: Fordham.Tami@epamail.epa.gov [mailto:Fordham.Tami@epamail.epa.gov] ent: Friday, July 16, 2010 3:45 PM o: Original Message rom: Fordham.Tami@epamail.epa.gov] ent: Friday, July 16, 2010 3:45 PM o:	est regards,	•
Original Message rom: Fordham.Tami@epamail.epa.gov [mailto:Fordham.Tami@epamail.epa.gov] ent: Friday, July 16, 2010 3:45 PM o: Original Message rom: Fordham.Tami@epamail.epa.gov] ent: Friday, July 16, 2010 3:45 PM o:		
rom: Fordham.Tami@epamail.epa.gov [mailto:Fordham.Tami@epamail.epa.gov] ent: Friday, July 16, 2010 3:45 PM o:	eff Parker	
rom: Fordham.Tami@epamail.epa.gov [mailto:Fordham.Tami@epamail.epa.gov] ent: Friday, July 16, 2010 3:45 PM o:		
ent: Friday, July 16, 2010 3:45 PM O: St; Daniel Chythlook; Ex. 6 Pll St; St; St; St; St; St; St; S	Original Message	
Ex.6 PII Ex.6 PII Com; Freed@bbahc.org; Com; Co	'rom: Fordham.Tami@epamail.epa.gov	mailto:Fordham.Tami@epamail.epa.gov]
Ex.6 PII ; Cancel Chythlook; Cancel Chyth	• •	
Ex. 6 PII Ex. 6 PII		
Ex. 6 PII Ex. 6 PII	· · · · · · · · · · · · · · · · · · ·	rate was come to the control of the
Ex.6 PII ; hered@bbahc.org;		3 3 45
Ex.6 PII		
Ex. 6 PII	and the second s	
Ex. 6 PII	, Daniel (mythiook; , , , a not,
lenspurg@bbna.com;		
lensburg@bbna.com;	EX. O FII	•
lensburg@bbna.com;	7) 8	
lensburg@bbna.com;	, , , , , , , , , , , , , , , , ,	
lensburg@bbna.com;		The second of th
	* * * * *	, /
		ia.com;

EXHIBIT

Serious

23

{00466089 }

Subject FW: Administrator Lisa Jackson Visit to Dillingham - Update -Please Respond by Tuesday July 20th 1 attachment H MiningClaims_2008_2010_companies_area_15Julyc.jpg ----Original Message----From: jeff parker [mailto: Ex.6 PH, Jeff Parker Sent: Saturday, July 17, 2010 1:52 PM 'Fordham.Tami@epamail.epa.gov'; 'newstutribe@starband.net george@ivanofbaytribe.org'; '; 'Daniel Chythlook'; 'ta', 'egegiktribaloffice@yahoo.com'; 'breed@bbahc.org'; jskarada@bbahc.org'; dwnnvs@bristolbay.com'; 'bparker@bbahc.org'; 'Billy Maines'; 'da 'lydia olympic@tws.org'; 'mayor@dillinghamak.us'; ''; 'Executive Director'; 'manager@dillinghamak.us'; sflensburg@bbna.com'; 'planner@dillinghamak.us' Cc: 'Mcgrath.Patricia@epamail.epa.gov'; 'Foster.Westley@epamail.epa.gov'; 'Kellogg.Greg@epamail.epa.gov'; 'Parkin.Richard@epamail.epa.gov' Subject: RE: Administrator Lisa Jackson Visit to Dillingham - Update - Please Respond by Tuesday July 20th

To Cara Steiner-Riley

CC

bcc

"jeff parker" Ex. 6 PII, Jeff Parker

07/17/2010 03:12 PM

FYI.

All,

You might find it useful for your meetings with EPA. The map appears to show a larger area under current mining claims than previously mapped.

Yesterday, I received from Carol Ann Woody the attached, updated map of mining claims in the area at and surrounding the Pebble claims.

I do not know who prepared this map. It appears to be based on DNR's data.

EXHIBIT

```
Best regards,
Jeff Parker
----Original Message----
From: Fordham. Tami@epamail.epa.gov [mailto:Fordham. Tami@epamail.epa.gov]
Sent: Friday, July 16, 2010 3:45 PM
                                                  news
george@ivanofbaytribe.org;
                               n i and
                              Daniel Chythlook;
                                                  breed@bbahc.org;
                        sflensburg@bbna.com
jskarada@bbahc.org;
                                                  dwnnvs@bristolbay.com;
                                        m; Billy Maines;
bparker@bbahc.org;
                                             🗪; lydia_olympic@tws.org;
mayor@dillinghamak.us; sflensburg@bbna.com; Executive Director;
manager@dillinghamak.us; planner@dillinghamak.us
Cc: Mcgrath.Patricia@epamail.epa.gov; Foster.Westley@epamail.epa.gov;
Kellogg.Greg@epamail.epa.gov; Parkin.Richard@epamail.epa.gov
Subject: Administrator Lisa Jackson Visit to Dillingham - Update - Please
Respond by Tuesday July 20th
```

Good Afternoon!

The purpose of this visit is for Administrator Jackson and the other EPA Officials to learn more about the Bristol Bay region and to hear local and regional perspectives regarding the proposed Pebble mine. This is a great opportunity to come and meet with the Administrator.

The times listed below have not yet been finalized, but they should be close. If the schedule changes I will let you know. I wanted to send the draft itinerary to you so that if you were planning on traveling to Dillingham you could make those arrangements. Also, please know that Sue Flensburg will be working with tribal environmental coordinators who would like to present a short presentation on their program work, see below for more information.

I am asking that for the closed tribal government meeting that you let me know who will be representing your tribal government, see below for more information.

Please get back to me and/or Sue by Tuesday July 20th. I will need names and titles for all of the people who are planning to meet with the Administrator. Curyung Tribe is also helping to organize the potluck so they would appreciate knowing how many people plan on traveling into Dillingham.

{00466301}

EPA-1578

Tami Fordham/R10/USEPA/US 07/16/2010 04;44 PM To Ex. 6 Pil tildenthomas, TPCRPR, levelock, mandrewir, newstutribe, faithandrew, newkgkyc, utvenv, george, meshik, togiakenvironmental, Ex. 6 Pil aleknagikigap, Daniel Chythlook, tuyuryak, bibiana_gloko, egegiktribaloffice, Ex. 6 Pil piipital, cijohnson_pca, louie, sofialenette, chigniklake.igap, billy, renekka, breed, pvl_environmental, ak_diva01, yantamibay, pipenvironmental, chigniklake_igap, sflensburg, sflensburg, mvcigap, jskarada, christinasalmon, shirley_endrew, wassilliera4, ronwassillie, c_balluta[Ex. 6 Pil] king2lorraine, dwnnvs, gishnook, [Ex. 6 Pil] king2lorraine, dwnnvs, gishnook, [Ex. 6 Pil] nsigap, Chas71, kokhanok_vc, ibmosaic, bparker, igap_less, Billy Maines, dorothy, lolympic, lydia_olympic, mayor, sflensburg, Executive Director, manager, planner

cc Patricia McGrath, Westley Foster, Greg Kellogg, Richard Parkin

bcc "jeff parker"

Subject Administrator Lisa Jackson Visit to Dillingham - Update -Please Respond by Tuesday July 20th

Good Afternoon!

The purpose of this visit is for Administrator Jackson and the other EPA Officials to learn more about the Bristol Bay region and to hear local and regional perspectives regarding the proposed Pebble mine. This is a great opportunity to come and meet with the Administrator.

The times listed below have not yet been finalized, but they should be close. If the schedule changes I will let you know. I wanted to send the draft itinerary to you so that if you were planning on traveling to Dillingham you could make those arrangements. Also, please know that Sue Flensburg will be working with tribal environmental coordinators who would like to present a short presentation on their program work, see below for more information.

I am asking that for the closed tribal government meeting that you let me know who will be representing your tribal government, see below for more information.

Please get back to me and/or Sue by Tuesday July 20th. I will need names and titles for all of the people who are planning to meet with the Administrator. Curyung Tribe is also helping to organize the potluck so they would appreciate knowing how many people plan on traveling into Dillingham.

Depart Anchorage 10AM

Arrive Dillingham - LOCATION: Dillingham Middle School (565 Wolverine Lane)

1130AM-1PM - <u>Tribal Environmental Program Successes</u> - this is an opportunity for tribal environmental programs to make brief presentations about their work throughout the region. If you would like to make a presentation please contact Sue Flensburg @ BBNA who will be organizing this session. If your tribe can not send anyone to this meeting and you would like to send information to Sue so that it can be given to the Administrator please contact Sue. Lastly, Sue is available to help with developing posters and the Bristol Bay Campus is willing to print 10 posters. CONTACT: Sue Flensburg no later than Tuesday July 20th if you are interested in presenting, sharing written information, or have any questions.

1PM-2PM - Potluck - Organized by the Curyung Tribe and the Bristol Bay Native Association

2-330PM - Meeting with Tribal Governments - This meeting is an opportunity for the EPA to hear tribal environmental concerns related to the proposed Pebble project, opportunities for partnership, and not a discussion as to whether or not the project should happen or not. If your tribal government is able to travel to Dillingham please let me know by Monday July 19th. I will need to know who will be the designated representative for your tribal government. If the Tribal Council can not travel and would like to appoint

EXHIBIT

Separate Sep

another person in the tribe to represent them please let me know who this person will be, no later than Tuesday July 20th.

330-345 - Break

345PM-445PM - Meeting with local and regional governments, non-profits, or other entities to share their perspectives on the proposed pebble project. Invitations will be sent to those organizations. This is a listening session, not a forum for stating positions on the project. EPA is not managing this as a public hearing, this is an opportunity for EPA to hear first hand from the people in Dillingham and the Bristol Bay region to discuss their environmental concerns, and opportunities for partnership.

5PM - EPA departs Dillingham (back to Anchorage)

EPA folks that will be traveling to Dillingham:

Lisa Jackson, Administrator

Robert Goulding, Staff

Allyn Brooks-LaSure, Press

Michelle DePass, Assistant Administrator-Office of International and Tribal Affairs(OITA)

Shalini Vajjhala, Deputy Assistant Administrator -OITA

Elle Beard, Special Assistant-OITA

Jeff Besougloff, Associate Director, American Indian Environmental Office -OITA

Dennis McLerran, Regional Administrator-Region 10

Marcia Combes, Director, Anchorage Operations Office (AOO)

Tami Fordham, TC, AOO

Patty McGrath, Mining, R10

Water Program Person, R10

If you have any questions or concerns please contact me.

I look forward to hearing from you soon.

Sincerely,

Tami

Equality - With Great Respect for the People We Serve

Tami Fordham Alaska Resource Extraction Tribal Policy Advisor Tribal Trust and Assistance Unit EPA Region 10 - Alaska Operations Office 222 W 7th Avenue #19 Anchorage, AK 99513-7588

Phone: 907-271-1484

TOLL FREE: 1-800-781-0983 Fax: 907-271-3424

Region 10 EPA Home Page

http:www.epa.gov

Region 10 Mining Website

http://yosemite.epa.gov/r10/ECOCOMM.NSF/Programs/mining

Region 10 Grants Administration Unit

http://yosemite.epa.gov/r10/omp.nsf/webpage/Region+10+Grants+Administration+Unit

{00466302}

*EPA Tribal Portal http://www.epa.gov/tribal/

EPA Community Action for Renewed Environment http://www.epa.gov/CARE

{00466302}

June 28, 2013

Comments on Second External Review Draft of "An Assessment of Potential Mining Impacts on Salmon Ecosystems of Bristol Bay, Alaska" (April 2013)

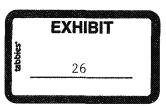
Prepared for

Pebble Limited Partnership

By

Crowell & Moring LLP

Richard E. Schwartz John C. Martin R. Timothy McCrum David P. Ross



EPA-7609-0014888_00090

Table of Contents

INT	RODU	JCTION1
DIS	CUSSI	ION
I.	The	e Risk Posed By The Mine To The Bristol Bay Fishery Is Minimal
	A.	Even absent compensatory mitigation, at most a small fraction of 1% of the sockeye salmon in the Bristol Bay fishery would be affected by a Pebble Mine
	В.	The Assessment overestimates the impact of the Pebble mine footprint
II.		A Avoids Assessing The Minimal Mining Risk In The Context Of The Bristol Bay hery
	A.	EPA never attempts to explain the mine scenario's minimal risks in the context of the region's fish resources.
	В.	Omission of the Bristol Bay watershed context violates EPA's risk assessment principles
III.		e Assessment Ignores Evidence That Compensatory Mitigation Could Eliminate Any Net ss of Salmon Habitat
	A.	Compensatory mitigation is an essential element of any valid mine scenario risk analysis
	В.	EPA erroneously dismisses compensatory mitigation options
	C.	Compensatory mitigation could eliminate any net loss of salmon habitat
	D.	Ignoring the scientific evidence on compensatory mitigation violates EPA guidance 12
	E.	Ignoring evidence about compensatory mitigation from a primary stakeholder violates EPA guidance
IV.		Assessment Also Lacks Evidence Of Potential Harm To Its Secondary "Endpoints": dlife and Alaska Natives
V.	The	Assessment Creates Exaggerated Risk Scenarios By Ignoring Modern Mining Practices
	A.	The Assessment fails to account for best mining practices that will be required to avoid, minimize and mitigate environmental impacts
	1.	The Assessment exaggerates the risk of tailings storage facility failures17
	2.	The Assessment exaggerates the risk from tailings storage facility operation18
	3.	The Assessment exaggerates the risk of wastewater treatment plant failure18
	4.	The Assessment exaggerates the risk from wastewater treatment plant operation18
	5.	The Assessment exaggerates the risk from waste rock storage
	6.	The Assessment exaggerates the risk from pipeline failures
	7.	The Assessment exaggerates the risk from the road corridor and culverts22

	8.	financial assurance requirements
	В.	The Assessment's exaggerated risk scenarios fail to comply with EPA guidance 24
	1.	The common focus of the risk scenarios on a single mine eliminates consideration of other management options
	2.	The narrow mine options under consideration are unrealistic24
VI.		Assessment Fails To Apply High Quality Science Or The Best Available Data As quired By EPA Guidance
	A.	EPA's failure to remain objective and its use of biased scientific articles violates federal requirements for scientific integrity
	В.	The Assessment's biases violate the Information Quality Act
	C.	The Assessment has unacceptable levels of uncertainty, making its predictions little better than guesswork
	1.	The hypothetical nature of the mine scenario gives the Assessment a flawed foundation.
	2.	The Assessment's failure to address its uncertainties, its reliance on inadequate data, and its unrealistic scenarios all violate EPA's own guidance
VII.	Inde	ependent Peer Reviews Of Reports Used In The Assessment Expose Its Biased Nature
	. ,	
	A.	The peer reviewers recognized that the newly relied-on reports are biased and have little scientific value
	В.	The authors of the reports are committed mine opponents

INTRODUCTION

On behalf of the Pebble Limited Partnership ("PLP"), Crowell & Moring LLP submits these comments on the April 2013 Second External Review Draft of "An Assessment of Potential Mining Impacts on Salmon Ecosystems of Bristol Bay, Alaska" (the "Assessment").

Our legal comments on the first "External Review Draft" of the Assessment (released in May 2012) are set forth in our letter of July 23, 2012 to Docket ID No. EPA-HQ-ORD-2012-0276. As we explained in our July 23, 2012 comments, the Assessment would not support an EPA veto under Section 404(c) at any time, and certainly not prior to the submission of a permit application.¹

The following comments focus on the discrepancies between the Assessment's evidence and its conclusions. The available evidence shows that the Bristol Bay fishery would not be endangered by a modern mine at the Pebble deposit. The authors of the Assessment ignore good science in a transparent attempt to foster the opposite impression.

The Assessment Engages in Advocacy by Selective Omission

Although the evidence shows that the Pebble mine project poses no significant risk to the Bristol Bay fishery, the Assessment has been drafted to make it appear that it does. This distorted picture is achieved largely through a common advocacy device: selective omission. The most important omissions are:

1. <u>Avoiding discussion of the watershed context</u>: the Assessment speaks of lost streams and wetlands from the mine scenario footprint, but never confronts the fact that the entire mine scenario watershed has less than one-quarter of one percent of the salmon that enter the Bristol Bay watershed to spawn.

¹ Those conclusions are not altered by the District of Columbia Circuit's recent decision in *Mingo Logan Coal Co. v. EPA* (No. 12-5150; decided April 23, 2013), which held that EPA could veto a Section 404 permit *after* it was issued. This decision does not address the reasons that a *pre*-permit veto would be unlawful. In fact, the D.C. Circuit wrote on several occasions that it is the U.S. Army Corps of Engineers ("Corps") that specifies the disposal site subject to veto. That specification will not occur until a permit application has been submitted. A veto must be based on a finding that the discharge of "such materials" into "such area" will have an unacceptable adverse effect. 33 U.S.C. § 1344(c). Those facts cannot be known until the permit application is submitted. Moreover, because no environmental harm can occur until the permit is actually issued, there is no environmental justification for issuing a veto before the key facts are known.

- 2. Omitting scientific analysis of compensatory mitigation: the Assessment suggests that compensatory mitigation of the foregoing loss of habitat is unlikely to succeed, due to the absence of suitable mitigation sites. In fact, the Pebble deposit area has many such sites, and the net loss of salmon habitat will likely be zero once compensatory mitigation is included in the analysis.
- 3. Omitting modern mining practices from its risk scenarios: the Assessment devises exaggerated risk scenarios that are based on the absence of modern mine design and operating practices.

The Assessment omits the environmental protection and mitigation measures necessary for mine permitting. It combines these unrealistic omissions with unrealistic assumptions to raise unrealistic fears. The authors admit that the imagined risks cannot be reliably quantified. Thus the Assessment provides no basis for actually *assessing* its three "endpoints:" (a) any impacts on salmon, (b) any salmon impacts on wildlife, or (c) any salmon or wildlife impacts on Alaska Natives. Finally, the imagined risks are never placed in context of the productivity of the fishery in Bristol Bay, whose acknowledged value prompted the Assessment.

The Assessment Violates EPA's Own Risk Assessment Principles

This distorted picture also results from EPA's failures to follow its own rules for conducting risk assessments. Although EPA continues to invoke its 1998 *Guidelines for Ecological Risk Assessment* (May 14, 1998) ("Guidelines"), the Assessment does not follow those Guidelines. The Assessment's gloomy forecast is achieved by ignoring EPA's own precepts for such assessments. The Guidelines call for a holistic study that uses a wide lens – covering the entire watershed, its significant stressors, and the management options for protecting it. EPA's guidance reflects the common-sense principles that assessments be:

- comprehensive;
- *objective*; and
- scientifically sound.

It calls for the use of *real data* to *quantify* impacts from significant stressors, and to put those impacts into perspective so they can be understood. It requires accounting for and explaining sources of uncertainty. And it roots the risk assessment process in the *best available data and science*, to be evaluated in a rational and unbiased manner.

The Assessment does none of these things. Instead of evaluating the entire watershed, it effectively ignores most of it. Instead of looking at all significant stressors, it focuses on just one – a hypothetical Pebble mine that does not use best mining practices and fails to perform compensatory mitigation. Instead of using the best real data for its risk predictions, it ignores key information (on the local watershed, local mitigation sites, and modern engineering) and contrives unrealistic failure scenarios. It does not attempt to quantify impacts, because the data will not support meaningful quantification.

The significance of EPA's critical failures to apply its own principles cannot be overstated: the Assessment has become a patently biased, close-minded exercise based on improbable guesswork and faulty analysis. EPA itself has written elsewhere: "The Agency's ability to pursue its mission to protect human health and the environment depends upon the integrity of the science on which it relies." U.S. EPA, *Scientific Integrity Policy*, at 1 ("Scientific Integrity Policy"), (available at http://www.epa.gov/research/htm/scientific-integrity.htm). Here, however, the Agency casts aside scientific integrity, ultimately rendering the Assessment unsuitable for the serious task of evaluating management options for the Pebble deposit.

The following discussion highlights some of the Assessment's most fundamental flaws. We refer you to the comments submitted by PLP and Northern Dynasty Minerals Ltd. for a more in-depth discussion of the many technical and scientific errors in the draft Assessment.

DISCUSSION

I. The Risk Posed By The Mine To The Bristol Bay Fishery Is Minimal.

The Assessment does not demonstrate that the area affected by the Pebble mine would have a significant impact on salmon in the Bristol Bay fishery. In fact, it demonstrates the reverse.

A. Even absent compensatory mitigation, at most a small fraction of 1% of the sockeye salmon in the Bristol Bay fishery would be affected by a Pebble Mine.

Using the sockeye salmon populations and even accepting what are likely to be overstated fish populations from the Assessment, the number of sockeye salmon in streams affected by the mine site is (i) *less than one-fourth of one percent of the total inshore run of sockeye salmon in the Bristol Bay* area and (ii) *less than one-half of one percent of the annual commercial harvest of sockeye salmon*. According to the Assessment, the average annual inshore run of sockeye salmon is roughly 37.5 million and the annual commercial harvest is 25.7 million. Assessment at 5-11. Using the highest number from the "highest reported index spawner counts" in the Assessment, about 90,000 fish occupy the "mine scenario watersheds." *See id.*, Tbls. 5.3 and 7.1. Thus, even using the Assessment's numbers, the sockeye salmon in the "mine scenario watersheds" represent approximately .24% of the total inshore run of sockeye salmon in Bristol Bay and approximately .35% of the annual commercial harvest from Bristol Bay. Even setting aside mitigation measures, the Pebble mine would have negligible impact on salmon habitat in Bristol Bay.

² This sum amounts to 90,000 fish. We question, however, the accuracy of the reported numbers. Without explanation, the drafters included within this count a tributary to Upper Talarik Creek. *See* Assessment at 7-13, Tbl. 7-1, n.b.

B. The Assessment overestimates the impact of the Pebble mine footprint.

Among the fundamental deficiencies in the Assessment is its failure to consider and evaluate with care the baseline data made available by PLP and other public sources. As explained by Buell & Associates, Inc., "EPA drew the wrong conclusions regarding adult salmon spawning distribution and relative ecological importance by failing to examine site specific and publicly available data on the habitat conditions, fish species distribution, and densities of juvenile salmonids found in their mine development impact areas." Comments of Buell & Associates, Inc., An Evaluation of EPA's Bristol Bay Watershed Assessment 2013 2nd Draft Assertions Regarding Fish Habitat Mitigation Measures Efficacy and Applicability, at 12 (May 22, 2013) (herein "Buell & Associates"). For example, EPA concluded that salmon spawn above Frying Pan Lake in the South Fork of the Koktuli, a conclusion that is not supported by available data. Id. "If EPA had completed an adequate evaluation of the public sources of information, it is likely that their conclusions regarding the overall ecological significance and magnitude of potential impact would have been different. Id. at 14.

To the limited extent that the drafters have evaluated PLP data, they are critical of fish-counting methodology such as snorkel surveys, electrofishing, minnow traps, beach seines, gill nets, angling and dip netting, contending that these methodologies "very likely underestimate[]" the presence of fish. Assessment at 7-14. Yet, the report provides no basis for this criticism. The Assessment notes the "extreme difficulty of observing or capturing all fish in complex habitats" and apparently considers this sufficient to indict the data derived from well-recognized methods to evaluate the presence and distribution of fish. *Id.* It is revealing, however, that the Assessment cites only to databases that most experts would acknowledge yield *less* dependable data than those acquired from onsite evaluations of the sort performed by Pebble contractors. *See* Buell & Associates at 12. Certainly, in the absence of better data or any suggestion that there were defects in methodology, the PLP data is the best scientific information available, yet EPA failed to use it.³

II. EPA Avoids Assessing The Minimal Mining Risk In The Context Of The Bristol Bay Fishery.

A. EPA never attempts to explain the mine scenario's minimal risks in the context of the region's fish resources.

EPA states that it "launched this assessment to . . . evaluate the impacts of large-scale mining . . . on *the region's fish resources*" and yet the Assessment avoids this subject almost entirely. Assessment ES-1 (emphasis added). It never even attempts to quantify harm to the Bristol Bay fishery from the hypothetical mining scenario, apparently because (as noted above) any such harm would be so insignificant.

³ The Assessment uses the "highest index counts," and, accordingly, the numbers reported in Table 7-1 may well *overstate* the number of fish in the streams at issue.

Instead of assessing impact on the Bristol Bay fishery, EPA lists a series of theoretical risks associated with mining activities in the region and calculates the amount of habitat that might be physically affected near the Pebble Deposit. EPA never translates that information into an assessment of harm to the overall fishery. This approach was soundly criticized by the peer review panel during its review of the initial draft Assessment. Because EPA failed to modify its assessment methodology, the second draft Assessment is equally flawed.

In both the initial and second draft Assessment, EPA uses lost or degraded fish habitat as a surrogate for estimating mining-related impacts on salmonid populations. *Id.* at ES-28 ("Estimated effects of mining on fish habitat thus become the surrogate for estimated effects on fish populations."). This approach led to a dead end. As EPA admits, the "[c]onsequences of the loss and degradation of habitat on fish populations *could not be quantified* [in the draft Assessment] because of the lack of quantitative information concerning salmonid populations in freshwater habitats." *Id.* (emphasis added). In other words, EPA cannot translate habitat loss into any meaningful assessment of risk to salmonid populations within the Bristol Bay watershed. This limitation is no minor defect – it represents the failure of the Assessment to meet its primary objective.

As explained by David Atkins following his peer review of the initial draft Assessment: "Development of the mine as proposed would eliminate streams and wetlands in the project area permanently. The importance of this impact is not put in context of the watershed as a whole, so it is not possible to determine the magnitude of the risk to salmon." Final Peer Review Report: External Peer Review of EPA's Draft Document, As Assessment of Potential Mining Impacts on Salmon Ecosystems of Bristol Bay, Alaska, at 13 (Sept. 17, 2012) ("Final Peer Review Report"). According to Dr. Dirk van Zyl: "It is unclear to the reader how significant a loss of 87.5 km of streams in the Nushagak River and Kvichak River watersheds is to the overall ecosystem. Are there any criteria that can be used to develop such an expression? . . . EPA['s] Assessment does not provide any insight in the magnitude of risk except to provide a value for the consequences." Id. at 58. Dr. Dennis Dauble adds: "What is lacking is quantitative estimates of spawning and rearing habitat that would be lost relative to the total habitat available. Having this information would help provide perspective of overall risk to individual watersheds and the Bristol Bay watershed as a whole." Id. at 53.

EPA never addresses these issues. Instead, EPA focuses its assessment on less than 1% of the overall land and water resources within the Bristol Bay watershed. *See* Assessment at 2-8. To put the scale of EPA's assessment into perspective, the Bristol Bay watershed is approximately 115,500 km², the combined Nushagak and Kvichak River watersheds are 59,890 km², the local watersheds surrounding the Pebble Deposit are 925 km², and the largest mine scenario footprint is 75 km². *Id.* EPA describes near-mine impacts to local streams and wetlands, but EPA never relates those potential adverse impacts to the Bristol Bay salmon fishery as a whole. In the words of Dr. van Zyl from the last peer review process, the draft Assessment still "does not provide any insight in the magnitude of risk" to the Bristol Bay fishery. Final Peer Review Report at 58. And yet, EPA unaccountably concludes that "a large-scale mine and its associated transportation corridor would affect the abundance, productivity, and diversity of Pacific salmon." Assessment at 12-1. Given the Assessment's total failure to

quantify salmon impact in the context of the Bristol Bay fishery, EPA's conclusion is remarkably independent of EPA's evidence.

As for the transportation corridor, EPA statements belie its foregoing conclusion: EPA wrote that *it could not estimate* changes in fish productivity, abundance, and diversity from the construction and operation of the transportation corridor based on available information. *Id.* at 10-40.

The same inability applies to the mine footprint, yet EPA reached some remarkable conclusions. Although EPA lacks salmonid abundance and productivity data in the specific watersheds at issue, *see id.* at ES-28, EPA nevertheless speculated that the direct loss of stream habitat from the mine footprint would lead to "losses of local, unique populations" and "would erode the population diversity that is key to the stability of the overall Bristol Bay salmon fishery" *Id.* at 7-31. There is no evidence that there are "unique populations" of species near the Pebble Deposit, let alone that those populations would be wiped out or that population diversity would be "erode[d]" by potentially affecting less than 1% of the total watershed area. *See* Environmental Resources Management, *Comments on EPA's May 2013 Bristol Bay Assessment*, at 15-16 (June 28, 2013) ("ERM Comments"); HDR Engineering, Inc., *Wetlands Review of the 2013 EPA Bristol Bay Assessment*, at 3 (June 28, 2013) ("HDR Comments"). Most importantly, EPA has admitted that it cannot translate potential habitat loss – its primary assessment criterion – to actual population impacts. *Id.* at ES-28. EPA simply does not have the information that could justify its sweeping conclusions about the impact of a Pebble deposit mine on the Bristol Bay fishery.

The central question that motivated this assessment is: how would mining affect the long-term viability and abundance of salmon and other fish resources in the Bristol Bay watershed? EPA avoids analysis of this core issue, apparently because there are no data to suggest that mining cannot co-exist with other commercial, recreational and cultural uses of the resources within the overall watershed. In fact, as discussed below, the only quantitative data in EPA's assessment with respect to fish population indicate that mining would have minimal or no impact on the overall Bristol Bay fishery.

B. Omission of the Bristol Bay watershed context violates EPA's risk assessment principles.

The Assessment's failure to consider management goals, stressors, and impacts throughout the Bristol Bay watershed conflicts with EPA's watershed assessment guidance. Watershed assessments should evaluate a watershed as a whole, not portions of it in isolation. The Region 10 Watershed Assessment Primer instructs, for example, that sub-watersheds "are not designed to be stand-alone assessment areas." U.S. EPA Region 10, *A Watershed Assessment Primer*, EPA 910/B-94/005, at 5 (1994). The Primer explains unequivocally that "[t]o maintain or improve water quality, we need to assess problems, develop responses, and predict changes *at the watershed level*." *Id.* at 2 (emphasis added).

In contravention of this principle, the Assessment avoids analysis of the broader watershed significance of its hypothetical risk scenarios. In fact, the Assessment is not a

"watershed assessment" at all, an omission that did not escape the notice of the peer reviewers. As peer reviewer David Atkins explained:

The importance of this impact is not put in context of the watershed as a whole, so it is not possible to determine the magnitude of the risk to salmon.

Final Peer Review Report at 13. Peer Reviewer Dennis Dauble made a similar observation:

The Integrated Risk Assessment (Chapter 8) did a creditable job of summarizing habitat losses and risks from mine operations. What is missing, however, are quantitative descriptions of habitat lost relative to total habitat available in the larger watershed and individual systems. Habitat loss should be further discussed in terms of salmonid life stage and productivity (i.e., not all stream miles are equal).

Id. at 16. Mr. Dauble further explained that: "What is lacking is quantitative estimates of spawning and rearing habitat that would be lost relative to the total habitat available. Having this information would help provide perspective of overall risk to individual watersheds and the Bristol Bay watershed as a whole." *Id.* at 53.

Reviewer Dirk van Zyl made the same point with specific reference to the Assessment's estimated loss of stream miles:

It is unclear to the reader how significant a loss of 87.5 km of streams in the Nushagak River and Kvichak River watersheds is to the overall ecosystem.

Id. at 58. All of these peer reviewers are making the same point: unless the Assessment places its imagined impacts in the context of the whole watershed (as called for by EPA guidance) it fails to provide the means to evaluate their significance.

III. The Assessment Ignores Evidence That Compensatory Mitigation Could Eliminate Any Net Loss of Salmon Habitat.

EPA fails to account for compensatory mitigation measures in assessing mine scenario impacts to streams and wetlands. Rather than assess the effectiveness of those measures, EPA claims that it must wait for a "formal regulatory action" (*i.e.*, permitting) before it can analyze this issue and simply notes that there may be "significant challenges regarding the potential efficacy of compensation measures" Assessment at 7-32. In fact, EPA notes that "there appear to be no sites that a mitigation project could restore or enhance to offset the magnitude of impacts expected from the mine scenarios." *Id.* at App. J, 8-9. In reaching this conclusion, EPA committed at least two fundamental errors: (1) the Agency incorrectly narrowed the regional extent of compensatory mitigation opportunities, and (2) it ignored evidence that there are many suitable *local* mitigation sites. These omissions make EPA's risk scenarios grossly overstated.

A. Compensatory mitigation is an essential element of any valid mine scenario risk analysis.

Compensatory mitigation is required by federal law and would be imposed on any mining project in the region. But rather than prepare a realistic ecological risk assessment, EPA chose to cut out essential parts the permitting process – the requirements for minimization of risks and compensation for any remaining harms. Omitting those requirements produced risk scenarios that are vastly overstated.

The Corps of Engineers' permitting regulations require project applicants to specifically design projects to avoid and minimize adverse impacts to aquatic resources, and then provide mitigation for any unavoidable impacts:

Pursuant to these requirements, the district engineer will issue an individual section 404 permit only upon a determination that the proposed discharge complies with applicable provisions of [EPA's Clean Water Act Section 404(b)(1) Guidelines], including those which require the permit applicant to take all appropriate and practicable steps to avoid and minimize adverse impacts to waters of the United States. Practicable means available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes. Compensatory mitigation for unavoidable impacts may be required to ensure that an activity requiring a section 404 permit complies with the Section 404(b)(1) Guidelines.

33 C.F.R. § 332.1(c)(2). EPA's Section 404(b)(1) Guidelines require project applicants to: (1) avoid discharges to waters of the United States if a practicable alternative to the discharge exists, 40 C.F.R. § 230.10(a); (2) minimize potential adverse impacts of discharges that cannot be avoided, *id.* § 230.10(d); and (3) offset environmental losses resulting from unavoidable impacts through compensatory mitigation. *Id.* § 230.93(a).

This avoidance, minimization and mitigation process is called "sequencing" under both EPA and Corps regulations and is central to the permitting process. *See id.* § 230.91(c) (EPA); 33 C.F.R. § 332.1(c) (Corps). As explained by the Corps: "Mitigation is an important aspect of the review and balancing process on many Department of the Army permit applications. Consideration of mitigation will occur throughout the permit application review process and includes avoiding, minimizing, rectifying, reducing, or compensating for resources losses." 33 C.F.R. § 320.4(r)(1). A project will not be permitted unless it complies with these requirements.

Notwithstanding that fact, EPA has failed to consider standard avoidance, minimization and mitigation techniques in its assessment of potential mining impacts on the Bristol Bay watershed. The Assessment essentially considers only the unmitigated impacts, and appears to assume that project applicants and federal regulators would blatantly ignore their legal obligations. This is an unrealistic assumption.

As Dr. van Zyl explained during the peer review process on the initial draft Assessment: "Any mine in Bristol Bay will have to undergo a rigorous and lengthy regulatory review and

permitting process." Final Peer Review Report at 48. Part of that process, Dr. van Zyl explains, would include consideration of "common mitigation measures" and compensatory mitigation when "damages to wetlands are unavoidable. . . . It is unclear why this was not included in [EPA's] evaluations." *Id.* Other peer reviewers agreed. As Mr. Akins pointed out: "The Assessment describes what is considered to be conventional 'good' mining practice, but does not adequately describe and assess mitigation measures that could be required by the permitting and regulatory process. A thorough analysis of possible mitigation measures as employed for other mining projects and the likelihood that they could be successful in this environment would be necessary." *Id.* at 99; *see also id.* at 14 (comments of Steve Buckley) and 49 (comments of Dr. Phyllis Scannell). EPA disregarded these and similar comments raised by members of the public: the draft Assessment still ignores standard mining practices and techniques that could effectively mitigate any environmental harm associated with mining in the Bristol Bay watershed, as explained below.

B. EPA erroneously dismisses compensatory mitigation options.

In Appendix J, EPA claims that compensatory mitigation for the Pebble Mine must be conducted within the watersheds that drain the north and south forks of Koktuli River and Upper Talarik Creek. *Id.* at App. J, 6. According to EPA, these watersheds would offer the "greatest likelihood" that compensatory mitigation would replace the ecological functions lost or affected by the mining activity. *Id.* Not surprisingly, EPA offers no support for this critical assumption, aside from claiming that "these watersheds appear to offer the only opportunity to address impacts to salmon populations that are unique to these drainages" *Id.* at 6-7. EPA also claims that there are no mitigation options within these three watersheds that could offset impacts associated with the Pebble project. In support for these sweeping biological conclusions, EPA relies heavily on a recent article written by Thomas Yocum and Rebecca Barnard. Ms. Barnard is a lawyer representing the Bristol Bay Native Corporation in their opposition to the Pebble Mine. Mr. Yocum likewise is an active opponent of the Pebble Mine, recently authoring anti-Pebble reports for the Bristol Bay Native Corporation and Trout Unlimited. 5

In reality, the compensatory mitigation regulations provide ample flexibility to the permitting authority – in this case the Alaska District of the Corps of Engineers – to select the appropriate scale and location of compensatory mitigation. The regulations require the district engineer to "use a watershed approach to establish compensatory mitigation requirements . . . to the extent appropriate and practicable." 40 C.F.R. § 230.93(c). The regulations do not mandate the size of the watershed that must be considered in establishing a compensatory mitigation strategy, they simply require that the watershed "should not be larger than is appropriate to

⁴ See Thomas G. Yocum & Rebecca L. Bernard, *Mitigation of Wetland Impacts from Large-Scale Hardrock Mining in Bristol Bay Watersheds*, 3 SEATTLE J. ENVT. L. 71 (2013) (describing Ms. Bernard as outside counsel for the Bristol Bay Native Corporation).

⁵ See id. at 73 n.5 (referencing a report prepared by Mr. Yocum for the Bristol Bay Native Corporation and Trout Unlimited).

ensure that the aquatic resources provided through compensation activities will effectively compensate for adverse environmental impacts resulting from [the permitted] activities "

Id. § 230.93(c)(4). "The district engineer should consider relevant environmental factors and appropriate locally-developed standards and criteria when determining the appropriate watershed scale in guiding compensation activities." Id. Thus, the appropriate watershed scale might include any "land area that drains to a common waterway, such as a stream, lake, estuary, wetland, or ultimately the ocean." Id. § 230.92 (definition of watershed). The key is to use a "landscape perspective" that will identify the "types and locations of compensatory mitigation projects that will benefit the watershed and offset losses of aquatic resource functions . . . caused" by the authorized activities, id. (definition of watershed approach), taking into consideration "the likelihood for ecological success and sustainability" and "the location of the compensation site [in relation] to the impact site and their significance within the watershed"

Id. § 230.93(a).

In Alaska, with large tracts of relatively undisturbed areas and an abundance of wetlands and stream resources, the appropriate landscape and watershed scale requires a far different calculus than is used for the more urbanized environments typical of the lower 48 states. That is why the Alaska District of the Corps has adopted special policies for developing compensatory mitigation strategies for projects within its jurisdiction. *See, e.g.*, Alaska District Regulatory Guidance Letter, RGL Id. No. 09-01 (Feb. 25, 2009). Those policies note that the compensatory mitigation regulations "provide flexibility for district engineers to use innovative approaches or strategies for determining more effective compensatory mitigation requirements that provide greater benefits for the aquatic environment." *Id.* at Tbl. 1. As HDR points out in its June 28, 2013 comments on the draft Assessment, there are several examples of the Alaska District devising suitable compensatory mitigation requirements for large-scale developments in Alaska, including using a large, regional watershed scale approach to mitigation. *See* HDR Comments at 2-4.

Thus EPA's contention that the Corps must look only to a narrow mine scenario watershed for mitigation opportunities ignores the Corps' policies for compensatory mitigation in Alaska. Below we will briefly describe the ample mitigation opportunities that would be available to the Pebble project – not only regionally, but in the vicinity of the mine.

C. Compensatory mitigation could eliminate any net loss of salmon habitat.

Habitat improvement techniques have a long and successful track record of improving salmon productivity, particularly in the Pacific Northwest and Alaska. There are a variety of proven methods that can be used to promote fish production and habitat productivity, including several within the very same watersheds that EPA has concluded cannot support compensatory mitigation projects. As explained by Buell & Associates:

EPA concluded in the [Assessment] that no on-site mitigation measures were available to offset the impacts from their development scenarios within the three primary watersheds. This assertion is refuted by a large body of scientific literature combined with the ecological conditions within these watersheds. . . . [F]or more than 75 years fish habitat

managers have successfully applied in-stream mitigation measures in numerous salmon supporting watersheds.

Buell & Associates at 17 (reviewing "techniques or approaches that have been used by others to address similar mitigation or habitat improvement issues [that are] appropriate for the species and ecological conditions associated with the Pebble deposit area").

Physical habitat manipulation within existing stream channels can create new spawning areas and juvenile rearing habitats. Strategic placement of boulders, wood, and other structures can modify water velocity and flow patterns, cause localized scour, and create deposition zones for suitable spawning habitat. Stream channels can be elongated, stream banks can be stabilized, and pools and habitat cover can be created. Seasonal or temporary barriers to water flow can be modified or removed, while permanent means of fish passage over other physical impediments can be provided. As explained by Buell & Associates, these techniques have been used successfully in Alaska, western Canada and the Pacific Northwest to increase the productive capacity of salmonid and other fish habitats with growing sophistication over the past several decades. *See id.* at 22-41. More importantly, these kinds of techniques can be evaluated to offset impacts in the Pebble deposit watersheds. *See id.* at 70-73.

Secondary channel and off-channel habitat improvement projects can also successfully increase fish production through the development of new spawning, rearing and overwintering habitat. For example, abandoned channels and cut-off oxbows can be reconnected to main stream channels through targeted reconfiguration projects. New secondary channels and off-channel pond-stream complexes can also be created, making use of surface or groundwater connections to develop the targeted habitat. Deep pools with cover elements, for example, can be incorporated into groundwater-based secondary channel designs to provide overwintering habitats, while lower-velocity secondary channels can be created adjacent to high-velocity stream segments to provide rearing habitat for juveniles. Buell & Associates extensively explain these concepts and successful project examples in their May 22, 2013 paper. *See id.* at 41-58.

EPA also ignored potential water quantity and water quality-based mitigation techniques that have been successful in promoting fish productivity. The timing and location of water discharges from treatment facilities associated with the Pebble project could be engineered and operated to overcome natural limitations in salmon spawning habitat. *See id.* at 18. Those discharges can also be controlled to address the biological needs of the three primary watersheds near the deposit by regulating for temperature and water chemistry. *See id.* at 58-66. Rather than consider these possibilities, EPA assumed that any treatment facility discharge from the Pebble project would have significant negative consequences for the local watersheds encompassing the deposit. As explained by Buell & Associates, "EPA's lack of familiarity with the three principal watersheds, the water flow characteristics within those watersheds, and [the] apparent[] lack of knowledge regarding salmon egg incubation ecology resulted in [its] inappropriate and deleterious water management scenario." *Id.* at 18. Beneficial water management options can be evaluated as part of the Pebble permitting process. *See id.* at 70-73.

EPA's failure to consider well-known mitigation techniques and management measures is puzzling. To conclude that "there appear to be no sites that a mitigation project could restore or enhance to offset the magnitude of impacts expected from the mine scenarios" (Assessment at App. J, 8-9) ignores the published literature and available scientific evidence. Buell & Associates provide numerous examples of fish habitat mitigation projects that have been successful in this region and context. These options would be evaluated during any normal mine permitting process.

D. Ignoring the scientific evidence on compensatory mitigation violates EPA guidance.

EPA's failure to use the best available information concerning mitigation is a fatal flaw in the Assessment. Ecological risk assessments should always incorporate the best available information and data. This standard is essential to ensuring any measure of reliability and to avoid bias. It is especially critical given that the information in the Assessment may be used to support policy decisions respecting potential future mining, and policymakers are instructed to "weigh the *best available science*, along with additional factors such as practicality, economics, and societal impact, when making policy decisions." Scientific Integrity Policy at 3-4 (emphasis added).

The mandate to use the best available information is reinforced throughout recent Agency guidance. In its most recent (2008) watershed risk assessment guidance, EPA repeatedly stresses that "[e]ffective risk communication must accurately translate the best available and most useful scientific information in a manner understandable to managers and stakeholders." U.S. EPA, Application of Watershed Ecological Risk Assessment Methods to Watershed Management ("2008 Watershed Guidance"), EPA/600/R-06/037F, at 3 (Mar. 2008) (emphasis added); see also id. at 52 ("Effective risk characterization must accurately translate the best available information about a risk into a language nonscientists can understand"). EPA's 2002 Risk Characterization Handbook similarly emphasizes the importance of using the highest quality information, observing that "[r]easonableness is achieved when . . . the characterization is based on the best available scientific information." U.S. EPA, Science Policy Council Handbook: Risk Characterization ("Handbook"), EPA 100-B-00-002, at 18 (Dec. 2000) (emphasis added). The Handbook also identifies "[u]se [of] best available scientific information" as one of the specific "Criteria for a Good Risk Characterization." Id. at 19.

Recognizing the importance of using the best available information, EPA has also expressly adopted an adapted version of the Safe Drinking Water Act's quality principles for use in conducting "influential" scientific risk assessments. These principles require that the "substance of the information is accurate, reliable and unbiased," which in turn necessitates:

(continued...)

⁶ "Influential" information refers to information that "will have or does have a clear and substantial impact (i.e., potential change or effect) on important public policies or private sector decisions." U.S. EPA, Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by the Environmental Protection Agency ("2002 Guidelines"), EPA/260R-02-008, at 19 (Oct. 2002). In addition to the obvious policy

- (i) the *best available science and supporting studies* conducted in accordance with sound and objective scientific practices . . . ; and
- (ii) data collected by *accepted methods or best available methods* (if the reliability of the method and the nature of the decision justifies the use of the data).

2002 Guidelines at 22 (emphasis added).

Finally, the 1998 Guidelines (the claimed basis for the current Assessment) emphasize the importance of taking an "inclusive approach, which evaluates all available information" Guidelines at 114 (emphasis added). Where different evidence supports differing conclusions, risk assessors should "investigate possible reasons for any disagreement rather than ignore inconvenient evidence." Id. at 115 (emphasis added). Unfortunately, the current Assessment does just the opposite: it deliberately relies on articles by known opponents of a Pebble mine (discussed below in Section VII), while largely ignoring the detailed, pertinent (but inconvenient) information contained in Pebble's environmental baseline data ("EBD"). The Assessment's failure to seriously consider all of the available research and to use the best available information (instead of articles that reach conclusions that EPA finds congenial) has led to scientifically indefensible conclusions.

E. Ignoring evidence about compensatory mitigation from a primary stakeholder violates EPA guidance.

The Assessment purports to reflect a transparent process, involving "[m]eaningful engagement" with the various stakeholders interested in potential mining in the watershed. See Assessment at 1-6, Box 1-1. Yet a closer look at the Assessment process reveals that any real integration of certain key information from PLP – including the EBD – was entirely lacking.

The Assessment's failure to use relevant evidence from PLP, the Assessment's primary stakeholder, is plainly inconsistent with EPA guidance. The 1998 Guidelines specifically contemplate the active involvement of key stakeholders, particularly "[w]here they have the ability to increase or mitigate risk to ecological values of concern that are identified" Guidelines at 13.

The importance of using plans, data, and other information from primary stakeholders is further reiterated in EPA's 2008 Watershed Guidance. The guidance encourages the involvement key stakeholders "at every stage" of the assessment process and places particular emphasis on the value of information-sharing:

(continued...)

implications of the Assessment (EPA's stated intent to use the Assessment in later decision-making regarding a future Pebble mine), EPA's Peer Review Plan for the Assessment expressly designated it "highly influential." See

http://cfpub.epa.gov/si/si public record report.cfm?dirEntryId=241743.

Involving stakeholders throughout the process increases the likelihood that findings will be useful and helps prevent confrontation or litigation. Watershed management requires an interactive, participatory approach . . . in which risk assessors both impart information to and gain information from stakeholders. In the [ecological risk assessment] paradigm, stakeholders work as partners with scientific risk assessors at every stage of the process—defining the problem to be solved, prioritizing the risks posed, and evaluating and ranking the remedies

2008 Watershed Guidance at 53 (emphasis added). Such a "stakeholder-based" approach "provides a means to make value judgments that are supported by the scientific evidence." *Id.*

Throughout the Assessment, EPA fails to take into account significant information from PLP's EBD or other such sources, despite the fact that PLP – whose planned activities are the basis for the Assessment – is by far in the best position to provide key information on specific site characteristics, mining operations, best mining practices, and other minimization and mitigation options. The Assessment's failure to consider best mining practices and mitigation options is particularly egregious. As the EPA guidance recognizes, such factors carry enormous implications with respect to ultimate risk and impact levels. "If . . . [they] are not identified and taken into account in risk analysis, results will be 'noisy,' masking any real relationships that might exist between source types, stressors, and effects." *Id.* at 40-41; *see also* Handbook at 18 ("Reasonableness is achieved when . . . appropriate plausible alternative estimates of risk under various candidate risk management alternatives are identified and explained."). The guidance concludes that "[a] solution to this challenge is to *involve people in the [assessment] who are knowledgeable about the watershed and can help 'ground-truth' risk analyses*." 2008 Watershed Guidance at 41 (emphasis added).

In the case of this Assessment, those most knowledgeable about mining practices and potential impacts to the watershed were kept at a distance, resulting in an Assessment that ignores critical information. In the end, the Assessment's failure to use key evidence from PLP, including evidence about mitigation and important data included in the EBD, ultimately precludes any meaningful analysis of impacts that might occur.

IV. The Assessment Also Lacks Evidence Of Potential Harm To Its Secondary "Endpoints": Wildlife and Alaska Natives.

EPA has acknowledged "uncertainties" associated with its assessment of the potential harm to Alaska Natives' subsistence resources. Among other uncertainties, the authors note that the "magnitude of effects on Alaska Native cultures from any mining-associated changes in salmon resources is unknown" Assessment at 12-17. Indeed, EPA's entire discussion of potential fish-mediated effects is speculative. EPA speculates that "[1]ower salmon production would likely reduce the abundance and production of wildlife in the mine area and presumably in the range areas of the affected species," but acknowledges that the "magnitude of those effects cannot be quantified" at this time. *Id.* at 12-1. The Assessment acknowledges that "[f]actors such as the magnitude, seasonality, duration, and location of the salmon loss would influence the specific wildlife species affected and the magnitude of effects." *Id.* at 12-2. Because specific

population information regarding salmonids is generally not available (*see id.* at ES-28), EPA could not quantify actual fish-mediated effects in its assessment and the Agency's commentary on Native subsistence is entirely speculative.

Moreover, much of this portion of the Assessment simply assumes that the Pebble Mine would give rise to "lower salmon production." *Id.* at 12-1. As described above, there is no basis for EPA to assume that there would be any reduction in salmon. Even setting aside the reality that mitigation will be required to offset impacts to salmon habitat, the quantitative information on salmon populations in the watershed and the streams affected by EPA's mine scenarios demonstrate that the mine could not have a material effect on salmon populations. As described above, the sockeye salmon in the area of the mine represent less than one-quarter of one percent of the sockeye harvested annually from Bristol Bay. Plainly, impacts on such a tiny percentage of the population would not materially affect Alaska Natives' supply of the fish.

The text also notes that "there are no subsistence salmon fisheries documented directly in any of the mine scenario footprints" *Id.* at 12-8. Thus EPA has no basis to conclude that there will be any direct, negative effect upon Native Alaskans' subsistence. The authors instead simply recount the undocumented assumption that there will be "[n]egative impacts on downstream fisheries from headwater disturbance" *Id.* at 12-8. These "downstream impacts" apparently entail another undocumented assumption: that there will be a "reduction in downstream seasonal water levels." *Id.* In fact, as described below, no evidence supports *any* assumption that there will be a reduction in downstream water levels. And nothing in this portion of the Assessment indicates *any* reason to assume that water levels in areas used for Alaskan Natives' subsistence would be lower as a consequence of the Pebble Mine.

The Assessment implies that Pedro Bay, "the village closest to the transportation corridor" would be affected. *Id.* Yet, the text provides no explanation as to how the presence of the transportation corridor would affect subsistence uses. Rather, the authors apparently retreat to an assertion that "[t]he effects of the transportation corridor on subsistence resources would be complex and unpredictable." *Id.* In fact, EPA has no grounds to assert that subsistence use at Pedro Bay would be harmed. (Indeed, in the absence of an actual proposal from PLP, EPA is left to speculate as to the location and nature of the transportation corridor itself.)

To the extent that EPA relies on an "accident or failure" of the dam, EPA is reduced to speculation that does not account for modern engineering and measures that would prevent and mitigate accidental harm from a tailings storage facility. Again, this claim is no more than speculation built upon speculative premises that ignore the design and mitigation features of tailings storage facilities that would prevent the failures to which EPA alludes.

EPA suggests that mining activities might directly cause habitat fragmentation. *Id.* at 12-5. For most terrestrial and avian species that inhabit the vast Bristol Bay ecosystem, it is inconceivable that the mine footprint would constitute a barrier to the maintenance of genetic variability or cause a reduction in habitat connectivity or dispersal characteristics. Again, the authors provide no basis for this conclusion.

The Assessment's citation to the effects of the Red Dog mine are not quantified and may well be taken out of context. For example, the document refers to "limited, localized" effects on

caribou movement and distribution and the loss of nine caribou. *Id.* at 12-9. Neither of these references would suggest a material effect upon subsistence hunting. Nor does this text suggest how the experience at the Red Dog mine might be translated to the Pebble Mine's transportation corridor. Absent consideration of mitigation measures and the nature of the corridor, EPA is left to speculate about its impact. Similarly, the authors' reference to Alaska's North Slope does not provide any quantitative data and neglects to suggest how the experience on the North Slope is relevant to potential impacts from a Pebble Mine.

EPA suggests that based upon the Red Dog Mine experience, development "would directly affect wildlife subsistence resources within and around the mine scenario footprint" *Id.* at 12-9. Yet, EPA also acknowledges that there are no salmon-based subsistence activities within the Pebble Mine scenario footprint. *Id.* at 12-8. Nor do the authors suggest that there are hunting subsistence activities of any scale in the area of the mine site footprint. Thus, the Assessment provides no basis to infer that the Red Dog Mine's impact upon resources within that mine site's footprint is even relevant to this inquiry.

The authors are reduced to reliance on speculation about subjective "perceptions" that, of course, cannot be quantified. Reports of "subtle changes" of "color, texture, and taste of the flesh" of unspecified species, *id.* at 12-9 to 12-10, taken from the North Slope provide no basis for any conclusions about a Pebble Mine. The Assessment notes experience from the Red Dog Mine and Alaska's North Slope that, "localized changes in resource movement can affect that resource's availability and predictability to subsistence users, even when the overall pattern or abundance of the resource may not be affected by development activities." *Id.* at 12-10. This subjective perception is not documented or quantified, nor is there any indication that subsistence users were unable to adapt to these "localized" changes. Indeed, the suggestion that the "overall pattern or abundance" was unchanged may be a strong indication that, even on the North Slope, the impact upon subsistence use is not profound.

Finally, the Assessment relies on "perceptions" of the toxicity of the food supply. Noting that some residents near other development have inaccurate perceptions of the security of their food supply, EPA suggests that this inaccurate perception should weigh against allowing development. This phenomenon suggests instead that these residents should be provided greater access to information that could dispel unfounded fears.

V. The Assessment Creates Exaggerated Risk Scenarios By Ignoring Modern Mining Practices.

Following the public comment and peer review process for the draft Assessment, EPA was clearly on notice that its draft Assessment fundamentally failed to account for the use of modern mining practices and mitigation techniques that would be required to offset potential environmental impacts associated with mining. EPA failed to consider the sound advice of the peer review panel in its draft Assessment and continues to depict potential impacts of mining without consideration of legally-mandated mitigation requirements. Ignoring these requirements exaggerates the risk associated with mining the Pebble deposit.

A. The Assessment fails to account for best mining practices that will be required to avoid, minimize and mitigate environmental impacts.

As explained above, federal law requires project applicants to design projects to avoid and minimize adverse impacts to aquatic resources, and then provide mitigation for any unavoidable impacts. There is no justification for conducting an ecological risk assessment without considering avoidance, minimization and mitigation techniques. As the scientists at Environ note, the Assessment "continues to assume that a mine would be developed that does not meet State and Federal requirements for environmental protection, and adequate supporting technical information is still not provided." ENVIRON, *Technical Review Comments*, at 1 (June 14, 2013). They conclude that the "Agency presumes a level of environmental performance by the mining industry that is entirely unsubstantiated and assumes a level of performance that would violate current State of Alaska and federal laws." *Id.* Attach. A at 2.

1. The Assessment exaggerates the risk of tailings storage facility failures.

The Assessment makes a number of invalid assumptions about the design and potential failure rates for tailings storage facilities. As explained by the engineers at Knight Piésold:

The Assessment offers both earthquakes and overtopping as possible TSF dam failure scenarios, and conveys the false message that failure of a dam is not only possible but probable. The statistics that it uses to support this assertion are based on historical dam failures, which to a large extent are not relevant to modern tailings dams because of improved designs, more stringent regulatory oversight, and higher operating Accordingly, with a non-representative sample, the statistics are meaningless. There is some recognition of this deficiency, and in an effort to address it, the Assessment relies heavily on a paper by Silva et al. (2008) that presents probabilities of failure based on "quantified expert judgment", rather than a rigorous statistical analysis. These probability values are not statistically defensible, and at best can be considered very rough estimates. Though these values may be appropriate for use in a comparative analysis for assessing relative risk, they are not appropriate for assigning absolute risk, as done by the Assessment. The Assessment further underscores the inadequacy of its analysis by quoting probability values for a dam category that could not be permitted in Alaska (state-ofthe-practice engineering would be required), and then assigning probabilities of tailings dam failure from all causes by simply prorating the probability of slope failure by the ratio of total failures to slope failure, which is statistically invalid and nonsensical.

Knight Piésold Consulting, *Review of the Bristol Bay Assessment*, at 2 (June 28, 2013) (emphasis added) ("Knight Piésold Comments"). In addition to these statistical flaws, EPA has assumed that the mine would not be engineered to comply with current earthquake design criteria. *Id.* at 1. These invalid assumptions undermine the scientific integrity of EPA's Assessment and grossly overstate the risk associated with any potential tailings facility failure.

2. The Assessment exaggerates the risk from tailings storage facility operation.

The Assessment also includes "a number of invalid assumptions about tailings storage operations" *Id.* at 1. For example:

The Assessment . . . ignores the fact that standard mining mitigation practices and designs include seepage control measures that are monitored and maintained. It makes inflated estimates of total seepage rates for different assumed mine scenarios, which do not account for seepage control features that would be part of any new TSF dam design in Alaska.

Id. at 1-2. This assumption – that adequate mitigation measures will not be employed – along with a number of other technical errors in EPA's Assessment leads to a gross overstatement of adverse impacts associated with tailings storage facility operation.

3. The Assessment exaggerates the risk of wastewater treatment plant failure.

EPA also has made unwarranted assumptions about the operation and potential failures of a wastewater treatment plant ("WWTP") at the proposed mine. The environmental engineers at ERM explain:

The Assessment states that it takes into consideration "modern conventional mitigation practices as reflected in published Pebble materials and as suggested in mining literature and consultations with experts" (p. ES-26), but in fact it does not. For example, the Assessment assumes that in the event of a WWTP failure that water would be released directly to streams. This does not reflect international best practice, which would instead route wastewater in the event of a WWTP failure to either the Tailings Storage Facility (TSF) or the Mine Pit. If this best practice measure was incorporated, none of the impacts referenced in Chapter 8 of the Assessment would occur.

Another example relates to stream flow modification. The Assessment notes, but the Executive Summary does not, that the extent of stream flow modification is very sensitive to the location of the WWTP (p. 7-59).

ERM Comments at 9. The foregoing omissions of engineering management options creates an exaggerated risk scenario for WWTP operation.

4. The Assessment exaggerates the risk from wastewater treatment plant operation.

The Assessment exaggerates risks from WWTP operation in at least four ways. First, EPA fails to appreciate the value of the extraordinary environmental investigation conducted by

PLP. While acknowledging PLP's extensive stream gage network to measure local stream flows, EPA misses the role that this network will play in mine planning. As Knight Piésold explains:

The network is arguably the most comprehensive and intensive network of streamflow data collection sites ever assembled for a proposed mine, anywhere in the world. The information gained from this network is being used, in part, to calibrate water balance models . . . to guide studies on the location, timing, and rate of treated water discharge to the streams for mitigating potential impacts.

Knight Piésold Comments at 2. Knight Piésold continues by pointing out that the Assessment never explains how it quantifies the effects of mining development on downstream aquatic habitat. In contrast, permitting requirements for mines in Alaska require "extensive flow reduction studies with watershed specific models to analytically quantify potential flow reductions and assess different mitigation strategies." *Id.* (emphasis added).

Second, the Assessment makes incorrect assumptions about discharges of treated water. Contrary to the Assessment's assumption, such discharges would *not* depend on mine water requirements, "but rather would be guided by an aquatic habitat impact analysis and mitigation plan." *Id.* at 2.

Third, as ERM points out:

The Assessment also assumes no WWTP discharge to Upper Talarik Creek (p. 7-46). Thus, the Assessment fails to recognize an obvious mitigation measure that would be implemented (and likely required by permit) for the hypothetical project. This is an example of the Assessment's failure to consider measures to optimize water management in ways that could reduce impacts related to stream flow modification.

ERM Comments at 9.

Fourth, the Assessment assumes that streamflow reductions would increase during pit filling. In fact, because water would no longer be required for tailings management, streamflow reductions could be *decreased* during pit filling as necessary to meet streamflow mitigation objectives. Knight Piésold Comments at 2-3.

5. The Assessment exaggerates the risk from waste rock storage.

The Assessment's failure to account for mitigation measures to address potential leachate from waste rock piles exaggerates the risk from waste rock storage. As discussed in the comments by the engineers and scientists at Geosyntec:

The [EPA] statement [at pp. 8-12] that half (50%) of the leachate from waste rock outside of the leachate zone will escape and flow to surface waters is unsubstantiated. While the 2013 Assessment references the

Wardrop (2011) (i.e. Ghaffari et al., 2011) report, it fails to include the discussion in the report where it is stated that a low permeability cutoff wall will be installed around the waste rock piles and extraction wells will be installed within the cutoff wall to capture water and leachate infiltrating below the waste rock piles. This system can be optimized by adding wells, increasing pumping rates, and/or installing cutoff walls deeper in order to achieve significantly more than 50% capture. In tandem with proper management of potentially acid generating (PAG) waste rock to maximize its placement within the drawdown zone, the capture of PAG waste rock leachate can be close to 100%.

Geosyntec Consultants, Assessment of USEPA Response to Geosyntec's Comments on the Bristol May Watershed Assessment, at 10-11 (May 22, 2013) ("Geosyntec Comments").

6. The Assessment exaggerates the risk from pipeline failures.

EPA's assessment of risk from potential pipeline failures is rife with speculation and unsupported assumptions. As a threshold matter, the failure rates in the Assessment appear to be derived from pipelines that are not constructed to the standards applicable to pipelines for the Pebble project. Indeed, the numeric risks appear to be derived from pipelines that were built many decades ago. *See* Assessment at 11-5. Pipeline technology has changed significantly since the time that many of these pipelines were constructed and the authors should not attempt to judge a modern pipeline based upon ones that are decades-old.

Much as the Assessment did not account for other types of mitigation, EPA has not accounted for potentially protective measures that could prevent pipeline spills or minimize their consequences. Essentially, EPA has not considered modern pipeline design and containment measures, appropriate use of remote sensing equipment and automatic shut-off values, and modern maintenance measures. Indeed, EPA provides a back-handed acknowledgement of these measures, noting that "[i]t may be argued that engineering can reduce pipeline failure[] rates below historical levels" Assessment at 11-6.7 Absent consideration of these protective measures, the pipeline risk assessment is virtually meaningless.

In reality, modern technology can mitigate the effect of most spills. For example, placement of isolation valves would limit the volume of slurry that could be spilled. Along with

⁷ EPA's apparent explanation for ignoring modern technological safeguards is to cite "human error." EPA apparently believes that because technology cannot prevent human error, its risk assessment is valid. *Id.* at 11-6. Yet, EPA provides no quantification of the risk from "human error." Unless EPA separates the "human error" component of its risk from that which would not occur but for outdated technology, the anecdotes included in the Assessment recounting human error are uninformative about risks from operations that use modern technology. Moreover, EPA's implicit suggestion that consequences from human error can not be prevented by engineering measures is simply unfounded. In fact, many modern preventive measures would counteract human error.

automatic leak detection, isolation valves limit the volume of spilled material. EPA's hypothetical spill, *see id.* at 11-8, assumes a scenario that exaggerates the potential volume of spillage from a well-designed pipeline. In fact, the location described in this hypothetical would likely trigger additional engineering requirements to prevent the scenario described in this text. *See, e.g.*, Geosyntec Comments at 9-10. Another example involves EPA's assumption that pipelines would not be designed to accommodate flood levels near stream crossings. *See* Assessment at 11-9 ("Because flood flows are a potential cause of pipeline failure at stream crossings, this is a reasonable possibility."). Responsible engineering would account for flood levels at stream crossings. Again, EPA assumes a scenario that is unlikely with the use of commonplace modern engineering precautions.

EPA's projections about possible copper concentrate pipeline spills into specific streams that flow into Iliamna Lake are also highly speculative. *See* Assessment at 11-7 to 11-12. EPA draws speculative conclusions based on speculative assumptions:

- EPA uses an "estimated failure rate" that is derived from data that have absolutely no application to this project (citing to unrelated studies of old oil and gas pipelines in section 11.1) and fails to adjust that failure rate based on project-specific engineering;
- EPA assumes, without explanation, that "the probability of a pipeline failure is independent of location"; and
- With no apparent justification, EPA "assume[s] that spills within 100 m[eters] of a stream could flow to that stream"

Id. at 11-10. From these unsupported premises, EPA concludes that "a spill would have a 14% probability of entering a stream within the Kvichak River watershed" and a "35% probability of entering a wetland." *Id.* Neither of these conclusions has scientific justification. In fact, EPA concedes that these speculative results "cannot be quantified with existing data and modeling resources." *Id.* at 11-9.

EPA goes on to claim that a "pipeline failure would contaminate 2.6 km of Knutson Creek or 14 km of Chinkelyes Creek and 7.6 km of Iliamna River" *Id.* at 11-10. These assertions are not explained. EPA also speculates about the possible adverse effects of a copper concentrate pipeline spill flowing from Knutson Creek to Knutson Bay in Lake Iliamna. *See id.* at 11-17. EPA concludes that "the concentrate deposited in Knutson Bay would persist and *could* render a considerable area unsuitable for spawning and rearing for years." *Id.* (emphasis added). However, EPA admits that "transport and deposition processes" associated with these failures "cannot be quantified with existing data and modeling resources." *Id.* at 11-9. The reader therefore has no basis to test the validity of EPA's assertions. If EPA has modeled these events, the text should disclose such modeling or other foundation for these assertions.

Even EPA's exaggerated projections of potential harm appear to be local. For example, EPA concludes that in the event of a copper concentrate pipeline failure in or near a stream, "copper is not predicted to cause a kill of adult salmonids in the receiving streams once mixing

has occurred, but localized mortality *might* occur in the mixing zone *in the absence of avoidance behavior*." *Id.* at 11-13 (emphasis added).

EPA also speculates about potential diesel fuel pipeline failures. *See id.* at 11-20 to 11-32. EPA acknowledges that diesel fuel "typically dissolves or evaporates within a day" (*id.* at 11-21) and that "biological effects" of diesel spills into streams and wetlands "are seldom determined and published." *Id.* at 11-25. Nonetheless, EPA concludes that any diesel pipeline "spill that released more than a trivial amount of diesel to a stream, would be expected to cause an immediate loss of fish and invertebrates, and the community would be likely to recover in 1 to 3 years." *Id.* at 11-28. This conclusion is both unsupported and undermined by EPA's acknowledgement that "the magnitude and nature of these losses would be highly uncertain" *Id.* at 11-31.

7. The Assessment exaggerates the risk from the road corridor and culverts.

EPA admits that it cannot estimate changes in fish productivity, abundance, and diversity from potential impacts associated with the construction and operation of the road transportation corridor. *Id.* at 10-40. Nonetheless, EPA claims that there will be adverse impacts to salmonid species from the transportation corridor. These claims are not supported by the scientific literature.

EPA speculates that after active mining operations cease, approximately 47% of all streams along the transportation corridor will become blocked at any given time, stopping the upstream migration of spawning salmonids. *Id.* at 10-28. This assumption is based on what EPA characterizes as "typical maintenance practices" following mine closure. *Id.* But to support this assumption, EPA relies on studies that are inapplicable to modern road construction and maintenance requirements in Alaska. *See* Geosyntec Comments, Tbl. 1 at 11. In fact, those studies acknowledge that with proper design, construction and maintenance practices, many of the identified modes of failure could be prevented. *Id.* The engineers and scientists at Geosyntec specifically evaluated the list of potential culvert failures that EPA identified in the Assessment and concluded that "[e]ach of the modes of failure cited can be addressed using modern fish passage and channel stability design principles." *Id.* at 12.

EPA is also assuming that culverts could become blocked during the operational life of the mine despite daily inspections of the road and culvert system. EPA is presuming that culverts will be installed incorrectly, not built to specifications, or otherwise will fail in a "harsh environment." Assessment at 10-27 to 10-28. EPA offers no support for these assumptions.

EPA's discussion related to wetland impacts within the transportation corridor is also speculative. EPA claims that the "[r]isks to salmonids from filling of wetlands" and other "hydrologic modifications . . . are likely to diminish the production of anadromous and resident salmonids in many of the 53 streams known or likely to support salmonids that would be crossed by the transportation corridor." *Id.* at 10-40. This stark assessment is not supported by EPA's own analysis. Although EPA attempted to quantify risk to salmonid habitat due to alteration or filling of wetlands along the transportation corridor, the Agency acknowledged that the "distribution of salmonids in wetlands along the transportation corridor is not known" (*id.* at 10-

19) and that the "[e]ffects on fish production" from wetland impacts within the transportation corridor "cannot be estimated given available data" *Id.* at 10-20. In light of these unknowns, it is unclear how EPA can conclude that wetland impacts within the transportation corridor "are likely to diminish" salmonid production. There is no science underlying EPA's assessment.

Finally, EPA's estimate of truck-generated dust volume in the transportation corridor is based on a single study from 1973 conducted on rural roads in Iowa. EPA acknowledges that its road dust generation estimate may be reduced up to 50-75% due to the application of dust control techniques, but that such a reduction would have a "negligible effect on risks to fish" *Id.* at 10-41. This conclusion is inconsistent with EPA's methodology for assessing potential risks to fish from road dust generation, and highlights EPA's pervasive effort to downplay effective mitigation techniques while exaggerating risk. EPA's risk assessment for road dust focuses on assessing the quantity of dust generated and the subsequent localized fate and transport of that dust. *Id.* at 10-35 to 10-37. A reduction in generated dust would necessarily reduce potential risk.

8. The Assessment exaggerates the risk from all failure scenarios by ignoring modern financial assurance requirements.

EPA acknowledges that modern mining and environmental regulations "serve to hold an operator accountable for potential future impacts, through establishment of financial assurance requirements and imposition of fines or compliance orders upon non-compliance with permit requirements" *Id.* at 4-6. These modern regulatory regimes were developed during the 1970s and 1980s – EPA's continued reliance throughout the draft Assessment on comparative data from earlier mining activities ignores this development.

EPA states that, in the past, mining financial assurances (in amounts set and required by government agencies) have often been inadequate. *Id.* at 6-36. If this is a potential future risk, it is one that is completely within the control of the government. Here, a more realistic assumption would be that the State of Alaska will require financial assurances that will protect this important fishery.

EPA claims that financial assurances "do[] not address chemical or tailings spills because of the greater degree of uncertainty related to these accidents." *Id.* at 4-10. This claim is incorrect. There is no reason that a properly crafted regulatory financial assurance requirement could not cover spill incidents.

Furthermore, as the Knight Piésold engineers have stated: "Adequate bonding to reclaim and stabilize the site – including monitoring, maintenance, and upgrading or replacement of treatment systems as new technologies are developed – would be needed *before* any development could be permitted to proceed." Knight Piésold Comments at 2 (emphasis added).

B. The Assessment's exaggerated risk scenarios fail to comply with EPA guidance.

1. The common focus of the risk scenarios on a single mine eliminates consideration of other management options.

EPA's Guidelines point out that a "risk assessment that is too narrowly focused on one type of stressor in a system (e.g., chemicals) could fail to consider more important stressors (e.g., habitat alteration)." Guidelines at 8. The Assessment focuses on a single potential stressor – a Pebble mine. That potential stressor is never placed in context of the Bristol Bay fishery or the other stresses that have caused salmon populations to rise and fall for many decades.

The Assessment's management goals should *not* be defined by reference to any single policy option; instead, they should reflect the full range of policy options for addressing ecological values of concern. Indeed, the Guidelines instruct:

When several options are defined during planning for a particular problem . . . risk assessments can be used to predict potential risk across the range of these management options and, in some cases, combined with costbenefit analyses to aid decision making. When risk assessors are made aware of possible options, they can use them to ensure that the risk assessment addresses a sufficient breadth of issues.

Guidelines at 19 (emphasis added).

The Assessment's narrow focus on three similar hypothetical mine scenarios – apparently motivated by the prospect of vetoing a Pebble mine permit – has effectively eliminated from consideration numerous alternative management options throughout the Bristol Bay watershed. The failure to adequately and objectively evaluate those options (including ecological protection measures and habitat enhancement practices) has created a document whose narrow focus precludes the broad airing of issues that a risk assessment is supposed to provide.

2. The narrow mine options under consideration are unrealistic.

Even the Assessment's narrow mine options are inadequately evaluated because they are based on a mine without best mining practices or compensatory mitigation – a mine that could never be permitted. Numerous peer reviewers of the May 2012 draft commented on the Assessment's failure to evaluate a scenario that included best mining practices and mitigation. For example, peer reviewer Steve Buckley commented:

There is inadequate information on, and analysis of, potential mitigation measures at the early stages of mine development, which would attempt to reduce the impacts of mining activities on fish and water quality.

Final Peer Review Report at 14. Dirk van Zyl, the reviewer with the most experience in mine engineering, commented:

While the failure mode is adequately described, engineering and mitigation practices are not adequately described by EPA.

Any mine in Bristol Bay will have to undergo a rigorous and lengthy regulatory review and permitting process. I do not know of a process that will exclude consideration of the impact of all mine facilities on the streams and wetlands in the region. Therefore, I would suggest that the full implications of "mine operations conducted according to conventional practices, including common mitigation measures, and that meet applicable criteria and standard[s]" should have been addressed in the report. . . . "When damages to wetlands are unavoidable, the Corps can require permit[t]ees to provide compensatory mitigation." It is unclear why this was not included in the evaluations.

Id. at 48. Dr. van Zyl also pointed out that "there are reasonable mitigation measures that would reduce or minimize the mining risks and impacts beyond those already described and incorporated by the EPA in the assessment. There are a host of measures that are not addressed in the assessment" *Id.* at 102.

Phyllis K. Weber Scannell, a reviewer with extensive experience in mine permitting in Alaska, described some of the measures missing from the Assessment's scenario:

Chapter 4 provides a detailed description of a hypothetical mine design for a porphyry copper deposit in the Bristol Bay watershed. Some of the assumptions appear to be somewhat inconsistent with mines in Alaska. In particular, the descriptions of effects on stream flows from dewatering and water use do not account for recycling process water, bypassing clean water around the project, or treating and discharging collected water.

Id. at 49.

Reviewer David A. Atkins noted the importance of mine mitigation measures:

The Assessment describes what is considered to be conventional 'good' mining practice, but does not adequately describe and assess mitigation measures that could be required by the permitting and regulatory process. A thorough analysis of possible mitigation measures as employed for other mining projects and the likelihood that they could be successful in this environment would be necessary.

Id. at 99.

Thus, ignoring the Guidelines, the Assessment *starts narrowly* by considering only the mine as a future stressor, *then gets even narrower* by ignoring the mitigation options that would protect the selected primary endpoint (salmonid fish) from harm. This tunnel vision is what the Guidelines instruct EPA to avoid.

VI. The Assessment Fails To Apply High Quality Science Or The Best Available Data As Required By EPA Guidance.

It is a fundamental precept that ecological risk assessments, like any other scientific research developed by the Agency, reflect high quality science based on the best available data. Not surprisingly, EPA represents the Assessment as an unbiased "scientific investigation" based on "a review and synthesis of available information." Assessment at 1-2, 1-4. The Assessment's myriad omissions, uncertainties, and miscalculations, however, ultimately add up to a larger failure to apply rigorous science based upon the best available data relevant to the watershed and a potential future Pebble mine. In particular, the Assessment fails to seriously consider the most complete site-specific information and analysis – Pebble's own Environmental Baseline Document, developed for the specific purpose of planning for a future mine – in characterizing the risks and evaluating the magnitude of potential impacts. By failing to use the best science and information available, the Assessment contradicts EPA guidance in a number of respects, identified below.

A. EPA's failure to remain objective and its use of biased scientific articles violates federal requirements for scientific integrity.

Good, objective science is necessary for good, objective decision-making. Government-wide directives and EPA policy have reiterated this principle. In 2009, the President issued a memorandum on this subject, referring to it as "Scientific Integrity." The memorandum responded to the need to assure that the vast range of scientific work undertaken by the federal government, and the policies and actions resulting from such work, reflect good science that can be reasonably relied upon. In the President's words:

The public must be able to trust the science and scientific process informing public policy decisions. Political officials should not suppress or alter scientific or technological findings and conclusions.

The White House, Memorandum for the Heads of Executive Departments and Agencies on Scientific Integrity (Mar. 9, 2009).

To address the President's concerns, the Director of the Office of Science and Technology Policy was required to develop guidance to ensure that each agency put in place a program to "ensure the integrity of the scientific process." *Id.* Accordingly, the Director issued a subsequent memorandum to this effect, requiring each agency to develop policies recognizing, among other things, that "[s]cientific progress depends upon honest investigation, open discussion, refined understanding, and a firm commitment to evidence. Science, and public trust in science, thrives in an environment that shields scientific data and analyses from inappropriate political influence" John P. Holdren, *Memorandum for the Heads of Executive Departments and Agencies on Scientific Integrity*, at 1 (Dec. 17, 2010).

EPA is subject to the President's directive to promote and practice scientific integrity. Indeed, EPA has adopted its own scientific integrity policy recognizing that "[t]he environmental policies, decisions, guidance, and regulations that impact the lives of all Americans every day

must be grounded, at a most fundamental level, in sound, high quality science." Scientific Integrity Policy, at 1 (emphasis added). Accordingly, the Policy requires that all EPA employees (including scientists) "[e]nsure that the Agency's scientific work is of the highest quality, free from political interference or personal motivations." Id. at 3. Finally, the Policy declares it "essential that . . . scientific information and processes relied upon in policymaking manifest scientific integrity, quality, rigor, and objectivity." Id. at 3.

The Assessment is lacking in these most basic qualities. It reaches conclusions that are not grounded in the evidence, and which fail to take into full consideration all relevant information, data, variables, and uncertainties. It looks to known opponents of the Pebble mine for support for its risk characterization. And it was rushed – a project of unprecedented geographic and conceptual scale, drafted in an extraordinarily short amount of time. Because the Assessment fails to use good science – and fails to do so in an objective manner – it violates both government-wide and EPA policies demanding scientific integrity.

B. The Assessment's biases violate the Information Quality Act.

EPA's draft Assessment also fails to comply with information-quality guidelines published by the Office of Management and Budget ("OMB") and EPA in accordance with the Information Quality Act, 44 U.S.C. § 3516 note. The Act requires federal agencies to "ensur[e] and maximiz[e] the quality, objectivity, utility, and integrity of [disseminated] information." Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by Federal Agencies, 67 Fed. Reg. 8452, 8458 (Feb. 22, 2002) (OMB Guidelines). EPA applies the OMB Guidelines to scientific reports like the draft Assessment. See 2002 Guidelines at 9-10, 21.

EPA-disseminated information must be "accurate, reliable, and unbiased." 2002 Guidelines at 15. The government typically ensures objectivity through peer review by qualified experts. As explained by the Director of the Office of Science and Technology Policy, "data and research used to support policy decisions undergo independent peer review by qualified experts[.]" *Memorandum for the Heads of Executive Departments and Agencies* at 1-2. But peer review is effective only when authors engage with and respond to substantive criticism.

As we have explained throughout these comments, EPA has failed this simple test. For example, when assessing mitigation, EPA downplays the significance of beaver dam-induced impediments to fish migration. See Assessment, App. J at 10. EPA claims that even when beaver dams impede fish passage, the impediment is only temporary and mentions that higher flows or storm events will overtop or blow out the blockage. In contrast, when assessing the risk to migrating salmon through blocked culverts (see Chapter 10), EPA takes the opposite view: it assumes that the blockages will persist despite daily maintenance requirements by mining personnel, and that overtopping or high storm flows will cause additional adverse environmental effects through downstream sedimentation and stream channelization. See, e.g., id. at 10-26 to 10-28.

EPA's draft Assessment lacks objectivity, relies on biased studies parading as science, and is not a reliable foundation for any future policy or regulatory decision-making process.

C. The Assessment has unacceptable levels of uncertainty, making its predictions little better than guesswork.

1. The hypothetical nature of the mine scenario gives the Assessment a flawed foundation.

Part of the unacceptable uncertainty in the Assessment is due to the lack of realism in the mine scenarios. EPA continues to attempt to evaluate hypothetical mines without considering engineered site-specific mitigation measures to minimize environmental impacts. EPA's approach is unrealistic and leads to exaggerated projections of harm. As Dr. Dirk van Zyl explained to EPA in his comments on the initial draft Assessment:

Developing a mine plan for a specific ore body is a large task and is undertaken by a large team of engineers and scientists. In the process of developing a mine plan many options are considered for each facility and its components, including mining methods, process design options, waste rock management options, tailings management options, shipment of product, etc. . . . While some of the components of the final mine may contain elements of the conceptual mine, it is impossible to know whether the hypothetical mine scenario is realistic . . .

Using different options, both technological as well as site selection, for some or many of the facilities could result in impacts that are different from those described in the report. I would therefore suggest that using only the present hypothetical mine scenarios is insufficient. There could be a range of impacts, such as the surface areas of facilities, which in some cases could be smaller than what was chosen and in other cases larger. However, this does not mean that the hypothetical mine represents "average conditions." I therefore consider the mine scenario not sufficient for the assessment.

Final Peer Review Report at 38-39 (emphasis added).

As explained above, EPA's Assessment has projected a range of adverse impacts from mining without the use of the demonstrated mitigation measures that modern state and federal environmental permitting systems will impose as mandatory conditions in any major mine in the Bristol Bay watershed. This glaring omission is a fatal flaw.

The unknowns and uncertainties underlying the Assessment are so extensive that they produce a document that is more guesswork than science. As peer reviewer Charles Slaughter pointed out:

The probability approach outlined for potential TSF dam failure is unpersuasive. It is difficult to relate to a number like "0.00050 failures per dam year," or to the implication on p. 4-47 that one can expect a tailings dam failure only once in 10,000 to one million "dam years." This could suggest to the casual reader that failure of the hypothesized TSF1 dam (for which one "dam year" is one year) should not be anticipated in either the time of human occupation of North America, or the span of human evolution.

Id. at 62.

2. The Assessment's failure to address its uncertainties, its reliance on inadequate data, and its unrealistic scenarios all violate EPA's own guidance.

Because the uncertainties in the Assessment are (1) insufficiently accounted for, and (2) extend beyond any scientifically supportable bounds, the Assessment is contrary to Agency policy in several important respects.

First, EPA is required to properly identify and account for sources of uncertainty. The Region 10 Primer instructs that risk assessments are properly shaped by the scope of assessment constraints, including uncertainties in the data and analysis. *See* Watershed Assessment Primer at 3. Ultimately, "[n]o matter what technique is used, the sources of uncertainty . . . should be addressed." Guidelines at 64-65. EPA fails to satisfy this requirement. Peer reviewer John Stednick pointed out that EPA's conclusions went beyond the data underlying them:

The conclusions of the Executive Summary are strongly worded (e.g., pages ES 13 to 24), yet the uncertainties presented later in the report make the strong conclusions tenuous. An expanded discussion of uncertainties and limitations may temper those "conclusions."

Final Peer Review Report at 19.

Second, the Guidelines call for EPA to rely on precise, accurate data to the fullest extent possible. The Agency must not rest its conclusions on data that are insufficient for a scientifically-supportable risk assessment. Unlike EPA's other watershed risk assessments.⁸

Watershed Ecological Risk Assessment: the Effect of Land Derived Nitrogen Loads on Estuarine Eutrophication, Office of Research and Development, National Center for Environmental Assessment, Washington, DC, 600/R-02-079 (2002), available at

http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=15221; see also U.S. EPA, Ecological

(continued...)

⁸ Compare U.S. EPA, Clinch and Powell Valley Watershed Ecological Risk Assessment, Office of Research and Development, National Center for Environmental Assessment, Washington, DC, EPA/600/R-01/050 (2002), available at http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=15219), and U.S. EPA, Waquoit Bay

even those with predictive components, the Assessment focuses entirely on future, hypothetical stressors and activities, with no site-specific historical data to support its conclusions. The unprecedented over-reliance on unknown and speculative information and data clearly exceeds the limits of uncertainty contemplated by EPA's Guidelines. Peer reviewer David Atkins noted that the uncertainty underlying the Assessment hampered evaluation of its predictions:

[T]he report stresses the wide range of uncertainty, depending on design and environment. Without a more detailed understanding of the mine plan and associated engineering, as well as additional detailed analysis, it is difficult to determine if the failure probability estimates presented in the Assessment are reasonable.

Final Peer Review Report at 61. Peer reviewer William Stubblefield commented that because the Assessment preceded an actual mine proposal, the resulting uncertainty put its usefulness into question:

Although interesting, the potential reality of the assessment is somewhat questionable. It is also unclear why EPA undertook this evaluation, given that a more realistic assessment could probably have been conducted once an actual mine was proposed and greater detail about operational parameters available. . . . Unfortunately, because of the hypothetical nature of the approach employed, the uncertainty associated with the assessment, and therefore the utility of the assessment, is questionable.

Id. at 22. Peer reviewer Roy Stein wrote that the Assessment stands at "the outside edge" (and beyond) of its "semi-predictive models," leaving the conclusions on "tenuous ground":

However, from the list of uncertainties, we are operating at the outside edge (and beyond in many cases) of the semi-predictive models used in anticipating the impacts of the mine footprint, the routine operations of the mine, and the impacts of failures of TSF, pipelines, and water/leachate collections on extant salmon populations. And our knowledge of the baseline populations of the seven species of salmonids is no better, for we do not know the size, diversity, distribution, or vital rates (i.e., recruitment, growth, and survival across life stage) of these fishes.

Assessment for the Middle Snake River, Idaho, Office of Research and Development, National Center for Environmental Assessment, Washington, DC, EPA/600/R-01/017 (2002), available at http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=29097&partner=ORD-NCEA (incorporating predictive assessment, but doing so based on prior and existing area land use activities and effects).

⁽continued...)

Couple these two sets of uncertainty and the prognosis outlined in the report is suspect, at the very least, and somewhat anticipatory at best (I cannot bring myself to use the word "predictive"), . . . it seems to me that we are on tenuous ground when we attempt to predict the impact of the Pebble Mine on salmon, associated wildlife, and Native Alaskan cultures in the Bristol Bay Watershed.

Id. at 107. The point made by all three reviewers is that the information used in the Assessment is insufficient to support its goals – it is scientifically inadequate to predict impacts on the selected endpoints.

Third, EPA's guidance explains the importance of quantifying impacts, ⁹ yet very few of the risks analyzed in the Assessment are capable of being quantified, and many of these hypothetical risks are not even conducive to meaningful *qualitative* description. ¹⁰ Even where the Assessment attempts to estimate impact levels, it often cannot do so with any degree of certainty. Peer reviewer Paul Whitney pointed out that the Assessment's qualitative approach is not useful:

Merely stating that a qualitative increased risk for fish will also result in a qualitative increased risk for wildlife is not adequate. I am not satisfied with such an obvious and general conclusion.

Id. at 25.

Fourth, the lack of specificity as to mining in particular also conflicts with EPA's guidance. As to mining specifically, the Region 10 Primer requires that "[a]ssessment methods ... be tailored to the type of mining and impacts *that are taking place*" and further instructs that an assessment evaluate specific characteristics of the site for the purposes of developing an appropriate monitoring program. Watershed Assessment Primer at 26 (emphasis added).

⁹ 2008 Watershed Guidance at 27 ("Quantified target values of assessment endpoints should be specified, where applicable, as a means of evaluating and communicating whether a given management alternative meets management objectives.").

See, e.g., Assessment at 14-13 to 14-14 ("The effects of mining on fish populations could not be quantified because of the lack of quantitative information concerning [fish] populations and their responses. The occurrence of salmonid species in rivers and major streams is generally known, but not their abundances, productivities, or limiting factors. Estimating changes in populations would require population modeling"); see also id. at 7-26 ("Of the total wetlands area eliminated or blocked by the footprint, the proportion used by anadromous salmonids or resident fish species is unknown. Fish access to and use of wetlands are likely to be extremely variable in the mine area. . . . Given our insufficient knowledge of how fish use wetlands in the deposit area, it is not possible to calculate the effects of lost wetland connectivity and abundance on stream fish populations.").

Because this Assessment is focused on hypothetical mining activities, such tailoring is impossible here.

Both because of the extent of uncertainty and EPA's failure to properly account for it, the Assessment deviates impermissibly from Agency guidance. The Region 10 Primer has recognized:

Predicting the future effects of current changes is . . . hampered by lack of data. Each watershed is unique, and projecting future impacts of management changes may be most accurate when based on the watershed's responses to impacts in the past. Without accurate records, impact prediction becomes guesswork.

Id. at 46 (emphasis added). Peer reviewer Dirk van Zyl concluded that the hypothetical mine scenario is "not sufficient for the assessment" because differences from the actual mine plan will change the expected impacts to salmonid fish. Final Peer Review Report at 39. Dr. van Zyl described EPA's discussion of *cumulative* mining impacts as "speculation":

The cumulative assessment is very conceptual at best, as there are no specific proposals from any of the other potential resource areas. Cumulative impacts can only be evaluated once further details about other potential mines and their plans are available. At this time, this section can at best be seen as speculation.

Id. at 97.

As discussed above, EPA does not deny that the Assessment is based on *hypothetical assumptions* about *potential future* mining. No permit application has been submitted. No detailed mining plan is yet available. Consequently, EPA has predicted impacts without accurate records or even a current, site-specific plan. The resulting uncertainties are incompatible with a scientific watershed risk assessment.

VII. Independent Peer Reviews Of Reports Used In The Assessment Expose Its Biased Nature.

It is axiomatic, and declared in EPA's own guidance, that studies like the Assessment should be based on scientific work that is not tinged by bias or personal motivation. See, e.g., Scientific Integrity Policy at 3 ("reaffirms" that all EPA employees are to "[e]nsure that the Agency's scientific work is of the highest quality, free from political interference or personal motivation"); 2002 Guidelines at 21-22 (in disseminating influential environmental risk assessments, "EPA will ensure, to the extent practicable and consistent with Agency statutes and

¹¹ "Projecting changes to groundwater-surface water interactions in the footprint area with any specificity is not feasible at this time." Assessment at 7-58.

existing legislative regulations, the objectivity of such information," and "[t]he substance of the information [should be] accurate, reliable and unbiased").

Some time following the issuance of the first External Review Draft of the Assessment, EPA engaged peer reviewers for the apparent purpose of legitimizing at least seven reports written by mine opponents that EPA intended to use in the final Assessment. EPA wrote that "[o]ther non-governmental organizations have collected data specific to the Pebble deposit site. USEPA subjected some of these documents to external peer review before incorporating this information into the assessment." Assessment at 2-3. EPA has never explained which reports were given this peer review, or why those reports were selected. Unlike the relatively transparent peer review process for the first draft Assessment, this peer review process was conducted in the dark. PLP has now obtained copies of those peer review reports from EPA's website. Their content (described below) probably is the reason why EPA described them so vaguely in the draft Assessment.

A. The peer reviewers recognized that the newly relied-on reports are biased and have little scientific value.

The seven peer-reviewed reports are so biased that they have no place in an assessment that purports to be objective. In fact, the peer reviewers themselves identified the biased nature of these reports, and their comments reveal that these reports have little scientific value. What little value they have comes from compilation of the results of studies by others, although those studies were apparently selected to support the authors' own anti-Pebble (or anti-mining) agenda. These circumstances suggest that EPA chose to use them not because of their scientific value, but because of their slant. Below we describe the peer reviewer comments about each of these reports.

1. U.S. Copper Porphyry Mines Report: The Track Record of Water Quality Impacts Resulting from Pipeline Spills, Tailings Failures, and Water Collection and Treatment Failure (Earthworks 2012)

Earthworks is a U.S.-based organization opposed to mining. In Kuipers 2006 (discussed below), Earthworks is described (on the cover page for the report) as "a non-profit organization dedicated to protecting communities and the environment from the destructive impact of mineral development in the U.S. and worldwide." Earthworks' point of view is evident in its report's introduction, which candidly explains that "[t]he purpose of this report is to compile the record of pipeline, seepage control and tailings impoundment *failures* at operating copper porphyry mines in the U.S., and to document associated water quality impacts." Earthworks Report at 4 (emphasis added).

EPA selected four peer reviewers for this report: David Atkins, Robert Kleinmann, Dina Lopez, and Christian Wolkersdorfer. Robert Kleinmann wrote that "I find the report, by its nature, to be very biased. In reality, a similar report emphasizing problems and mistakes could probably be written for most human activities." Final Peer Review Summary Report: External Peer Review of Kuipers et al. 2006 (Comparison of Predicted and Actual Water Quality at Hardrock Mines) and Earthworks 2012 (U.S. Copper Prophyry Mines Report), at 20 (Nov. 15, 2012). David Atkins, one of the original peer reviews of the initial draft Assessment, observed

that "[m]ost of the mines considered are quite old facilities with operations often initiating in the 1880s and with large-scale, open-pit operations initiating in the post WWII era" *Id.* at 22. He noted that "[t]he conclusion that we can expect a similar or worse track record for a new mine is, however, not supported by the information presented." *Id.* at 24. Christian Wolkersdorfer wrote that "[b]ecause [the authors] did not provide reasons for [spills or impoundment or treatment failures] the 'innocent' reader might draw the conclusion that copper porphyry mine operations cannot be operated on a environmentally sound basis." *Id.* at 28. He later concluded that "this is not the case as many incidents are only of minor importance and modern day mining has more stringent requirements than the older mines investigated." *Id.* at 29. Mr. Kleinmann concluded: "Most of the report is based on guilt by association." *Id.* at 29.

2. Comparison of the Pebble Mine With Other Alaska Large Hard Rock Mines (Levit and Chambers 2012)

EPA selected the following peer reviewers for this document: David Brett, Andy Fourie, Robert Kleinmann, and Natalia Ruppert. Peer reviewer Robert Kleinmann wrote that this report "is clearly intended to convince the reader that the Pebble Mine should not be permitted to operate" Final Peer Review Summary Report: External Peer Review of Chambers and Higman 2011 (Long Term Risks of Tailing Dam Failure) and Levit and Chambers 2012 (Comparison of the Pebble Mine with other Alaska Large Hard Rock Mines), at 20 (Dec. 30, 2012). Mr. Kleinmann later noted that "[i]ts intended audience is clearly the general public rather than informed scientists and administrators." Id. at 21. Peer Reviewer Natalia Ruppert wrote that "it seems that the whole point of this report was to emphasize how much more threatening Pebble project's impact would be" than other projects. "Therefore, the report lacks impartiality." She concluded: "I remain suspicious as to soundness of the conclusions presented in this report. . . . I am suspicious of what the authors chose not to mention in order to maintain their perception of the Pebble mine threats." Id. at 16. Peer Reviewer David Brett wrote that the report "does tend to go into a relatively shallow commentary of potential impacts from the particular mine." Id. at 17. He later concluded that "some of the language used is a bit alarmist and not based on presented data." Id. at 19.

3. Comparison of Predicted and Actual Water Quality at Hardrock Mines (Kuipers et al 2006)

One of the co-authors of this report is Ann Maest, whose work – as described in more detail below – in support of a lawsuit against Chevron was publicly disavowed by her employer (Stratus Consulting). The report announces that "[t]his publication was made possible by EARTHWORKS" It also credits project advice, input, and "internal peer review" from Dave Chambers, the author of the report discussed immediately above.

EPA selected four peer reviewers for this report: David Atkins, Robert Kleinmann, Dina Lopez, and Christian Wolkersdorfer. Mr. Wolkersdorfer pointed out that the report's "summary table only describes old mines – where environmental requirements might have been less stringent than today." Final Peer Review Summary Report: External Peer Review of Kuipers et al. 2006 (Comparison of Predicted and Actual Water Quality at Hardrock Mines) and Earthworks 2012 (U.S. Copper Porphyry Mines Report), at 6 (Nov. 15, 2012). He added that

"the conclusions drawn by Kuipers et al. are correct for the 25 mines they investigated in 2006, but they cannot be used to predict the outcome of future predicted water qualities during or after mining." *Id.* at 7. Ms. Lopez concluded that "[b]ecause of the lack of statistical proof that the core findings of their presentation (e.g., 25 case studies) are representative for all past and future mines, the value of this report for the EPA assessment is questionable." *Id.* at 18. Mr. Wolkersdorfer made the same point. *Id.* at 4. Mr. Kleinmann pointed out that the study failed to consider that the mines "had operated over very different time periods, during which the state-of-the-art was rapidly changing." *Id.* at 15.

Notwithstanding these criticism, EPA relies on the report in the Assessment and states that the report's mine selection "is not apparently biased." Assessment at 8-53 (emphasis added). In fact, it is overtly biased. The authors selected 25 of 71 hard rock mines that resulted in NEPA water quality predictions. The second selection criteria priority was mines "indicating water quality impacts." *Kuipers* at 87. Thus the criterion excluded mines without water quality impacts. There is no clear explanation for EPA's assertion that the report methodology is not biased except perhaps to mislead the Assessment's readers.

4. Long Term Risks of Tailing Dam Failure (Chambers and Higman 2011)

This report provides an overview of tailings dam risks. EPA selected four peer reviewers for this report: David Brett, Andy Fourie, Robert Kleinmann, and Natalia Ruppert. David Brett observed that "some statistical interpretation is misleading." Final Peer Review Summary Report: External Review of Chambers and Higman 2011 (Long Term Risks of Tailing Dam Failure) and Levit and Chambers 2012 (Comparison of the Pebble Mine with other Alaska Large Hard Rock Mines), at 3 (Dec. 30, 2012). He went on to explain that "[r]ecent failures in China that I have personal knowledge of are due to inappropriate flood design parameters and lack of emergency spillway provisions. These cases affect the statistics and do not allow modern design practices and operations in well regulated environments to be fully appreciated." Id. at 4. Mr. Brett noted that the number of tailings dams far exceeds the 3,500 number quoted from another report – there are over 13,000 tailings dams in China alone – "many from small operations. Nevertheless failure of these is likely to be included in the statistics." Id. He concluded that the authors had "not fully understood the data" from a key source. Id. at 9. Mr. Fourie noted that "[t]he information presented is thus not derived from the authors' own research or investigations," but from independent sources. Id. at 5.

5. Fish Surveys in Headwater Streams of the Nushagak and Kvichak River Drainages Bristol Bay, Alaska, 2008-2010 (Woody and O'Neal 2010)

This report was done for The Nature Conservancy. EPA selected four peer reviewers to review the report: Michael Donaldson, James Helfield, Dennis Scarnecchia, and William Wilson. The report's stated purpose, as noted in its Preface, was "to determine whether salmon habitat could be affected by potential mining activity" at the Pebble prospect. Mr. Wilson observed that "I did not see that purpose reflected in the body of the report. There was no discussion of impact assessment methodology or documentation of an environmental assessment, which would be needed to attain the stated purpose." Final Peer Review Summary Report: External Peer Review of Woody and O'Neal 2010 (Fish Surveys in Headwater Streams of the Nushagak and Kvichak

River Drainages Bristol Bay, Alaska, 2008-2010) and Woody and Higman 2011 (Groundwater as Essential Salmon Habitat in Nushagak and Kvichak River Headwaters: Issues Relative to Mining), at 4 (Dec. 30, 2012). He criticized the "disjointed and advocacy-laced Preface, which unfortunately sets the scene for a report that bears little resemblance to the Preface." *Id.* at 10.

Mr. Scarnecchia observed that "[t]here is no discussion section at all where results are qualified and discussed, and the conclusion section has an array of new methods, results, and discussion, with no specific conclusions identified." *Id.* at 5. Mr. Wilson similarly observed that "[t]he conclusions of the report are meagerly supported by the evidence provided." *Id.* Mr. Sarnecchia observed other aspects of the methodology that were never explained, including the basis for selecting streams for sampling, how fish life stages were identified, or even why most of the habitat information was collected. *Id.* at 8-9. Mr. Wilson's observation exposes the bias of the study authors: "A statement on page 23 requires considerable explanation and referencing: 'As illustrated by this . . . stud[y], headwaters comprise a significant proportion of essential . . . habitat for salmon' This report provides no justification or supporting data or analyses for this statement." *Id.* at 11.

6. Groundwater as Essential Salmon Habitat in Nushagak and Kvichak River Headwaters: Issues Relative to Mining (Woody and Higman 2011).

The purpose of this report is to show that ground water is an essential habitat for salmon in the headwaters of the Nushagak and Kvichak River watersheds. EPA selected four peer reviewers for this report: Michael Donaldson, James Helfield, Dennis Scarnecchia, and William Wilson. Mr. Scarnecchia wrote that "[t]his paper is best characterized as an overview paper . . . presenting a range of plausible concerns" about changes in ground water quality associated with potential mining that might affect salmon habitat. Final peer Review Summary Report: External Peer review of Woody and O'Neal 2010 (Fish Surveys n Headwater Streams of the Nushagak and Kvichak River Drainages Bristol Bay, Alaska, 2008-2010) and Woody and Higman 2011 (Groundwater as Essential Salmon Habitat in Nushagak and Kvichak River Headwaters: Issues Relative to Mining), at 15 (Dec. 30, 2012).

Mr. Wilson, after noting that the report provided a good literature review on the ground water/surface water connection and sound field observations, wrote that "[t]he conclusions in this report, however, are not supported by the information provided. This report strays from the purpose as outlined in the title to a series of hypothetical and often random statements about mining impacts, concluding that a specific development, the Pebble Prospect, has the potential to 'significantly impact' fish without providing in this report data or information on the mine development plan, locations of specific mine facilities, mitigation measures to be employed, and many other unknowns." *Id.* at 16. Mr. Sarnecchia similarly commented that the third objective of the report was to "identify *potential risks*" (emphasis in original) and it used words "such as 'potential,' 'can,' and 'may,' recognizing that more detailed studies are clearly needed." *Id.* at 16. Mr. Wilson referred to the conclusions as "a series of hypothetical statements...." *Id.* at 18.

Mr. Donaldson commented that the premise for the one-day field study discussed in the report – that open water seen in March 2011 is from ground water upwelling – "represents a

weakness" because open water could result from other factors (including temperature changes) other than ground water upwelling. *Id.* at 19. Mr. Wilson concluded that "[o]nly a single field trip is described, and that effort was a single day in the field completing aerial surveys of over 175 miles (or more?). The study has limited application to impact assessment since it does not document actual fish presence in areas identified as open water and potential fish habitat. . . . Overall, this study is interesting and relevant, but limited in scope and too general in nature to contribute to quantitative assessment of development impacts." *Id.* at 24.

7. Potential Hydrologic and Water Quality Alternation from Large-scale Mining of the Pebble Deposit in Bristol, Bay, Alaska: Results from an Integrated Hydrologic Model of a Preliminary Mine Design (Wobus 2012)

This report was prepared for The Nature Conservancy by Cameron Wobus and Ann Maest of Stratus Consulting.¹² Its goal was to develop a hydrologic model of the Pebble deposit area to "improve the understanding of the potential effects of mining" on local hydrology and water quality. *Wobus* at 2. In the conclusion section, after noting that data uncertainties "limit the ability of the model to make specific numeric predictions[,]" the authors conclude that if leachate management systems fail, copper concentrations would likely exceed water quality criteria "with potential for significant adverse effects" on salmonids and other aquatic biota. *Id.* at 39.

EPA selected Michael Gooseff, Andrew Ireson, Thomas Meixner, and John Stednick to peer review this report. All of them identified significant problems with the model, the report, and the lack of support for the conclusions. Mr. Stednick, who also was selected to be a peer reviewer of the initial draft Assessment, observed that "the writing and tone of the report suggests less than an objective approach." Final Peer Review Summary Report: External Peer of Wobus et al. 2012: Potential Hydrologic and Water Quality Alteration from Large-scale Mining

 $^{^{12}}$ Dr. Ann Maest is a "Managing Scientist" with Stratus Consulting. On April 12, 2013, a sworn declaration was filed in a New York federal district court by Mr. Douglas Beltman, Executive Vice President of Stratus, referring to work carried out by Stratus and Dr. Ann Maest, where he declared that he has "disayow[ed] any and all findings and conclusions" in certain Stratus reports relating to alleged oil contamination in Ecuador. Chevron Corp. v. Donziger, et al., Witness Statement of Douglas Beltman, at ¶ 76, S.D.N.Y. No. 1:11-cv-00691-LAK (filed April 12, 2013). Mr. Beltman disavowed the Stratus scientific work, in part, because his own public statements regarding this project were "misleading" (¶ 66), and public statements by others associated with the project (including Dr. Maest) were unsupportable. See, e.g., ¶ 73 ("I have no scientific bases to believe any of the public statements referenced above to be true."); see also id. ¶ 22 ("I supervised the preparation by Dr. [Ann] Maest and other Stratus personnel or subcontractors of 11 of the 24 sub-reports and appendices "). For more information regarding Dr. Maest, see American Resources Policy Network, A Response to the EPA's Release of its Revised Bristol Bay Watershed Assessment (Apr. 29, 2013), available at http://americanresources.org/a-response-to-the-epas-release-of-its-revised-bristol-bay-watershedassessment/.

of the Pebble Deposit in Bristol Bay, Alaska, at 4 (Nov. 2, 2012). After quoting some of the reports conclusions, Mr. Stednick wrote that "[n]one of these observations are defended in the report and suggest a lack of objectivity. This lack of objectivity tempers the study results and leaves me questioning other results." *Id.* at 12. He later explained that, among other things, "[q]uantitative model results are not presented and some of the comments read like editorial opinions rather than reporting scientific results [and] . . . model efforts were not adequately described. Comments like 'a very good qualitative fit' and 'does predict the general degree and direction of potential impacts' (both on page 39) are value judgments rather than conclusions." *Id.* at 5.

Mr. Ireson concluded that "the credibility of the model is questionable" *Id.* at 13. He noted that "[t]he conclusions are weakly supported by the evidence provided. . . . The conclusions about mine impacts are dependent on the model and, therefore, those too are not strongly supported." *Id.* at 5. Mr. Gooseff, after expressing doubts about the accuracy of key representations in the model (*id.* at 7) concluded that it "should not be considered a prognostication for the future." *Id.* at 8.

Mr. Meixner wrote that the report's assumption that copper is "conserved" (does not interact chemically with other substances in the soil or water as it moves) "is flawed." *Id.* at 10; see also id. at 3 and 13. Mr. Stednick (id. at 11) and Mr. Gooseff (id. at 8) made similar observations. Mr. Gooseff wrote that "the lack of any potential interaction of the dissolved copper in the stream as it travels . . . suggests this is perhaps a worst-case result for this site." *Id.* at 8.

The reviewers had similar concerns about the authors adding one standard deviation to the concentration of the waste rock leachate. Mr. Ireson wrote that "one standard deviation was added to the concentrations of the waste rock leachate. . . . There is no justification provided for the choice of adding one standard deviation, and this could be seen as an attempt to bias the outcome of the study" *Id.* at 9. Mr. Stednick similarly noted that "[n]o justification for this [one standard deviation] inflation was provided" *Id.* at 4.

None of the reviewers expressed confidence in the model that served as the foundation of this report. The report suffers from inadequate data (site geology and hydrology), unrealistic chemistry (conservation of copper), arbitrary inflation of data (adding one standard deviation to the copper leachate concentration), and unsupported conclusions about mine impacts.

B. The authors of the reports are committed mine opponents.

It is hardly surprising that the peer reviewers found bias in the foregoing studies. The authors of the seven reports are opponents of the Pebble Project.

David Chambers is the president of the Center for Science in Public Participation ("CSP2"), which opposes mining in general and the Pebble project specifically. Its website is located at http://www.csp2.org/. The website's project page discusses the organization's activities opposing Pebble and its involvement with others whose articles were selected by EPA for peer review. The website explains in relevant part:

Since 2007 CSP2 has been providing technical support to a loose coalition of groups opposed to the proposed [Pebble] mine. Dave Chambers, (general mining), Kendra Zamzow, (geochemistry), and Stu Levit, (reclamation and regulatory), have provided support from CSP2. CSP2 also utilized consultants Carol Ann Woody, Ph.D., and Sarah O'Neal, M.S., from Fisheries Research and Consulting to provide support on fisheries biology, and Ann Maest, Ph.D., and Cam Wobus, Ph.D., from Stratus Consulting to provide technical support on geochemistry and hydrology. Bretwood Higman, Ph.D., from Ground Truth Trekking provided fault and seismic research.

The research efforts of this technical team have led to a significant number of publications and professional presentations. Dave Chambers, and CSP2 consultant Bretwood Higman, developed a paper on the "Long Term Risks of Tailings Dam Failure" which has been presented at several professional meetings. Kendra Zamzow collected and analyzed water quality data from several sites in the area of the proposed mine "Investigations of Surface Water Quality in the Nushagak, Kvichak, and Chulitna Watersheds, Southwest Alaska, 2009-2010." Stratus Consulting has developed a state-of-the-art computer hydrologic model that is being used to develop predictions of groundwater and surface water flows, and the geochemistry of those waters, which would result from the development of the mine. Fisheries Research and Consulting has been involved in a multi-year survey to collect data on the presence of salmonids in the area, "Fish Surveys in Headwater Streams of the Nushagak and Kvichak River Drainages, Bristol Bay, Alaska, 2008 – 2010."

EPA released its Draft "Bristol Bay Watershed Assessment" in May, 2012. This is a significant scientific effort to evaluate the potential impacts of the Pebble mine on the Bristol Bay ecosystem. Dave Chambers and Kendra Zamzow provided technical critiques of the Draft to EPA with recommendations for improvement. CSP2 is also working with the Bristol Bay Native Corporation in its effort to convince EPA to invoke its power under section 404(c) of the Clean Water Act to veto the Pebble Project because it would have an "unacceptable adverse effect" on fisheries resources in the Bristol Bay region.

CSP2, http://www.csp2.org/projects (last accessed June 24, 2013) (emphasis added). Of these authors, Mr. Higman is the most versatile: he co-authored papers both on tailings dam failures (with Mr. Chambers) and on ground water being essential salmon habitat (with Ms. Woody). The Assessment also uses works by Ann Maest, Cam Wobus, and Kendra Zamzow, all of whom helped Mr. Chambers' firm provide technical support "to a loose coalition of groups opposed to the proposed mine."

In addition, the Assessment's appendix on Native cultures (Appendix A) was authored by Professor Alan Boraas, who has been an open opponent of the Pebble Project since at least April

2007, when he was described as "a frequent op-ed contributor to the Anchorage Daily News. One of his regular targets for criticism is the Pebble copper project in southwest Alaska." On at least one occasion, he has presented his work at an event sponsored by organizations opposing Pebble who used the event to gather increased opposition to the project.

We request that the peer reviewed reports we have mentioned above and Professor Borass' study be removed from the final document. EPA's reliance on this information highlights a bias that fundamentally undermines what should be an objective, scientific process. In addition, the CSP2 website reveals that Ms. Zamzow began working for EPA's Office of Research and Development ("ORD") in Washington, D.C. in August 2012 and will continue to work for EPA until September 1, 2013. ORD is one of the authors of the Assessment. If Ms. Zamzow's work at ORD influenced the Assessment (which uses papers that she has authored) that would be cause for even further doubt about the objectivity of the Assessment.

¹³ J.P. Tangen, *Mining and the law: Rio Tinto and the Pebble project*, MINING NEWS, Vol. 12, No. 17 (Apr. 29, 2007).